

# Broome Community College

2009-2010

## Official Catalog Reference Document


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This catalog should not be used for public distribution or marketing purposes. It is intended for internal reference purposes only.

Please visit:

**[catalog.sunybroome.edu](http://catalog.sunybroome.edu)**

The online catalog includes the most recent approved academic information, a portfolio system to aid in storing and quickly recalling specific catalog content, and links to other important information on the public website such as the Faculty/Staff Directory.



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**Broome Community College:**

**A comprehensive Community College supervised by the State University of New York and sponsored by Broome County, New York**

**Broome Community College****P.O. Box 1017****Binghamton, NY 13902**

Phone: 607 778-5000

Outside Local Calling Area: 800 836-0689

TTY/TDD: 607 778-5150

Fax: 607 778-5310

URL: <http://www.sunybroome.edu>

- Partners in Progress

Broome Community College

- State University of New York
- Broome County, New York

**Accreditation**

Broome Community College is a member of the Middle States Association of Colleges and Schools, 3624 Market Street, Philadelphia, PA 19104-2680. Phone 215-662-5606.

The College is supervised by the State University of New York and its curriculums are registered by the State Education Department.

The Civil, Electrical, and Mechanical Engineering Technology programs are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, (TAC/ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202. Phone: 410-347-7700.

The Dental Hygiene Program is accredited by the Commission on Dental Accreditation, 211 E. Chicago Avenue, Chicago, IL 60611. Phone: 312-440-4653.

The Nursing Curriculum is accredited by the National League for Nursing Accrediting Commission, 61 Broadway, New York, NY 10006. Phone: 212-365-5555.

The Health Information Technology Program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM); 233 N. Michigan Avenue, 21st floor, Chicago, IL 60611-5800. Phone: 312-233-1100.

The Radiologic Technology Program is accredited by the Joint Review Committee on Education in Radiologic Technology, 20 N. Wacker Drive, Suite 2850, Chicago, IL 60606-3182. Phone: 312-704-5300. Website: [www.jrcert.org](http://www.jrcert.org)

The Broome Community College Medical Assistant Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP); 1361 Park Street, Clearwater, FL 33756. Phone 727-210-2350, on recommendation of the Medical Assisting Education Review Board (MAERB).

The Physical Therapist Assistant Program is accredited by the Commission on Accreditation in Physical Therapy Education, 1111 N. Fairfax Street, Alexandria, VA 22314. Phone: 703-684-2782.



The Clinical Laboratory Technology curriculum is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Road, Suite 720, Rosemont, IL 60018. Phone: 773-714-8880.

#### Non-Discrimination Commitment

Broome Community College does not discriminate on the basis of race, sex, color, creed, religion, age, national origin, disability, marital status, sexual orientation, or status as a disabled veteran or veteran of the Vietnam era in the recruitment or education of students; the recruitment and employment of faculty and staff; or the operation of any of its programs or activities. Where relevant, state and federal laws apply.

The designated coordinator for compliance with Title VI and VII of the Civil Rights Act of 1964, as amended, Title IX of the Education Amendments of 1972, and Section 402 of the Vietnam Era Veterans' Readjustments Assistance Act of 1974, as amended, is the Affirmative Action/Equal Opportunity Officer.

The designated coordinator for compliance with Section 504 of the Rehabilitation Act of 1973, as amended, is the Director of Student Support Services.

For further information or questions, contact the appropriate office weekdays, during regular College hours.

#### Educational Rights and Privacy Act

The Family Educational Rights and Privacy Act of 1974, as amended, establishes specific rights for students and/or their parents and prevents the release of certain information without the written consent of the student. Generally, this federal law gives students, former students, and alumni the right to review, in the presence of college personnel, their own personal records maintained by the college, including academic and financial records. FERPA permits a postsecondary institution to tell parents of students under the age of 21 when the student has violated any law or policy concerning the use or possession of alcohol or a controlled substance.

Parents of dependent students, as defined by the Internal Revenue Service, may have access to the college records of their dependent sons or daughters without student consent. Parents may have access to their child's information in the event of a health or safety emergency involving their child, without their child's consent.

At Broome Community College, the repository for student records is the Office of the Registrar (SS105). This office is open weekdays from 8 a.m. to 5 p.m. during the academic year.

1.

- a. In keeping with the spirit of Section 438 of the Act, the Registrar has been appointed as Records Access Officer. The following procedures have been developed for the benefit of the student and eligible parent:

A student in attendance at Broome Community College shall, upon request, be able to view his/her educational records at the Office of the Registrar within 45 days of the date of said request.

- b. A parent or guardian of a student in attendance at Broome Community College, who claims a student as a dependent on his/her Federal Income Tax Form shall, upon proper presentation of the dependency condition, be afforded the same rights as set forth in Paragraph 1a. Further, in cases of divorce, the school may give access to



either parent (custodial or non-custodial) unless there is a court order, state statute, or other legally binding document prohibiting such.

- c. Authorized state and federal government officials of educational and funding agencies.
- d. Educational research agencies, with the provision that they release only non-personally identifiable data.

2.

- a. Access to personally identifiable information about a student without the consent of the student may be provided by the College to the following individuals or agencies only:

School officials with a legitimate educational interest. A school official is defined as a person employed by the College in an administrative, supervisory, academic or support staff position (including law enforcement unit and health staff); a person or company with whom the College has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

- b. School officials of educational institutions to which a student might transfer.
- c. Authorized state and federal government officials of educational and funding agencies.
- d. Educational research agencies, with the provision that they release only non-personally identifiable data.
- e. Accrediting organizations.
- f. The U.S. Department of Defense under the Solomon Amendment.

3.

- a. Disclosure Without Approval of Student or Eligible Parent:

Upon receipt of a Judicial Subpoena of the records of a student, a reasonable attempt will be made to notify the student or the parent of the existence of the order of the subpoena in advance compliance therewith unless subpoena states otherwise.

- b. In the event of an emergency involving the health or safety of a student or other individuals, the Registrar may disclose information to federal or state officials as well as the parents of an eligible student.
- c. Directory Information &em; The name of the student, full time or part time status, dates of attendance, BCC e-mail address, honors, degree earned, date of graduation, photograph, participation in officially recognized activities and sports, weight and height of members of athletic teams, will constitute the total amount of information given to any individual making inquiry at Broome Community College, unless the student or eligible parent refuses to permit the disclosure. The student or eligible parent must notify the Registrar within two weeks of the beginning of semester classes that such personally identifiable information is not to be designated as directory information with respect to that student.

- 4. Broome Community College shall, on request, provide an opportunity for a hearing in order to challenge the content of a student's education records to insure that information in the education records of the student are not inaccurate, misleading, or otherwise in violation of the rights of privacy or other rights of students. The request for a hearing will be directed to the Registrar.





# About Broward Community College

Click on any of the following links for information:

- About BCC, History, and Values
- College Faculty
- Current Events
- College-wide Technology Initiatives (CWI)
- BCC Foundation
- The Center for Community Engagement

Broward Community College is a public, non-profit community college established by the State University of Florida, Broward County, and the Broward County Board of Education. It is a member of the Florida Community College System (FCCS) and the National Association of Community Colleges (NACCS). The college is a member of the Broward County Board of Education and the Broward County Board of Education. The college is a member of the Broward County Board of Education and the Broward County Board of Education. The college is a member of the Broward County Board of Education and the Broward County Board of Education.

## About BCC

### Section 1

#### Vision, Mission, and

#### Vision

Broward Community College vision is to be a leader in providing quality education and training to the community, and to be the premier institution of higher learning in the region. The college is committed to providing a high-quality, affordable, and accessible education to all students, regardless of their background or financial situation. The college is committed to providing a high-quality, affordable, and accessible education to all students, regardless of their background or financial situation.

#### Broward Community College

#### Statement of Purpose

Through the college, Broward County is committed to the following:

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# About Broome Community College

Click on any of the following links for information:

- [Vision, Mission, and Values](#)
- [College History](#)
- [Campus Setting](#)
- [Information Technology Services \(ITS\)](#)
- [BCC Foundation](#)
- [The Center for Continuing Education](#)

Broome Community College is a comprehensive community college supervised by the State University of New York, sponsored by the County of Broome, and governed by a Board of Trustees. It offers programs designed to prepare graduates for immediate employment (Associate in Applied Science degrees) and for transfer to four-year colleges and universities (Associate in Arts and Associate in Science degrees). The College also sponsors a variety of certificate programs, short-term training programs, and non-credit community education courses.

## Vision, Mission, and Values

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### Vision

Broome Community College strives to be a leader in anticipating and responding to diverse individual, community, and global needs for accessible lifelong educational opportunities. We collaborate with others to create high quality, innovative, student-centered learning environments, guided by our shared values.

*Broome Community College...*

*strives to be a leader*

We see our role as one of leadership in the community.

*in anticipating*

We will be proactive in identifying future needs for educational, training, and student support services.

*and responding*

We will marshal our resources and take responsibility for making things happen so that needs are addressed in a focused and timely manner.

*to diverse individual, community and global needs*

The programs and services developed by us may be delivered to an individual, but they will take into account the economic and social needs of the local community as well as selected global concerns. Our challenge is to contribute tangibly to the improvement of the local community by using our intimate knowledge of the community and our skills and resources to build, student by student, an effective citizenry and a productive workforce.

*for accessible*

We have a unique Mission to maintain the highest degree of accessibility by



|   |   |
|---|---|
|   | keeping costs low and providing services in convenient locations and at appropriate times. This could include designing programs that are integrated into employment or secondary educational settings.   |
| <i>lifelong learning opportunities</i>        | The community relies on us to adapt our programs to meet residents' changing needs. Responding to major job dislocations or an influx of refugees, reinforcing the skills of the employed workforce, enriching the lives of residents with new ideas, helping people get back on track with a second or third chance at an education are all vital roles played by BCC. |
| <i>We collaborate with others to create</i>   | We are committed to addressing the important issues facing the local community, but we know that the answers will come from the combined efforts and resources of many agencies, organizations, and institutions.   |
| <i>high quality</i>                           | We are recognized for the quality of our programs and the range of services they include. That quality will be maintained and improved.   |
| <i>innovative</i>                             | Our solutions may require new partnerships, new ways of delivering educational services, and new ways of using our educational skills and resources. We will contribute the creativity of our people in whatever ways will be productive.   |
| <i>student-centered learning environments</i> | We recognize that the need to supply each student with appropriate and diverse learning opportunities, as well as administrative and support services, is more important than ever to the achievement of our Mission.   |
| <i>guided by our shared values</i>            | We will maintain our commitment to the principle of free and open inquiry in the academic tradition. The statement of Values is the framework that guides the policies and procedures governing the day-to-day operations of the College.   |

## Mission

Broome Community College provides:

- open access to those who can benefit from its programs and services.
- university-parallel degree programs for students aspiring to baccalaureate degrees and professions.
- occupational and technical degree and certificate programs for students aspiring to careers in business, health, technology, and human services.
- General Education to broaden and deepen students' intellectual, moral, civic, and social competence for effective participation in the world community.
- collaborative leadership among the diverse institutions, organizations, agencies, and other entities that comprise our community.
- community and continuing education and training to serve the needs and interests of individuals, employers, and agencies.
- career advising, skills and knowledge assessment, and related support services to help students reach their full potential.
- a community of free inquiry and educational achievement wherein each member is treated respectfully.

- a broad range of educational, social, athletic, and recreational activities to foster students' personal development, community involvement, and leadership skills.

## Values

In fulfilling its mission and fashioning its goals, Broome Community College affirms these commitments:

- *to Learning* The primary reason BCC exists is to offer lifelong learning opportunities for our students under the principle of free and open inquiry. These opportunities are accessible, affordable, and of the highest quality possible.
- *to Excellence* In fulfilling our mission, achieving excellence is a process both valued and expected. We value both the leadership of individuals and collaboration of teams as part of a continuous improvement effort.
- *to Equity* Respecting both individual rights and social obligations, the College is an advocate for fairness and just treatment for all students and staff.
- *to Diversity* BCC values and celebrates the diversity of its students and employees. We respect their diverse life experiences, appreciate their contributions to our learning community, and promote individual development and success.
- *to Accountability* We honor the trust placed in us by the larger community and understand our accountability for efficient and effective use of resources. We also expect personal honesty, integrity, and responsibility to be essential elements in our learning environment.
- *to Innovation* BCC encourages all members of its community to imagine. We nurture an environment of innovation and experimentation and invite all to participate in the unique possibilities of a learning community.

## College History

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1946 Chartered as New York State Institute of Applied Arts and Sciences at Binghamton

1953 Name changed to Broome County Technical Institute

1956 Name changed to Broome Technical Community College

1957 Campus moved to present location on Upper Front Street, Binghamton, NY

1971 Name changed to Broome Community College

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## Campus Setting

Binghamton is centrally located in the State of New York, 45 miles from Ithaca, 70 miles from Syracuse, and about 200 miles from both New York City and Philadelphia. Routes I-81, I-88, and NY 17/I-86 pass through the city.

Binghamton, Endicott, and Johnson City make up the Triple Cities, an urban metropolitan area that offers a sophisticated cultural life along with easily accessible outdoor recreational opportunities. Major employers are United Health Services, Endicott Interconnect Technologies, Lourdes Hospital, IBM, Maines Paper and Food Service, Lockheed Martin, and Binghamton University (one of SUNY's four University Centers, located a few miles from BCC).

Broome Community College's campus is located three miles north of Binghamton on Upper Front Street, which is Route 11 alongside Interstate 81. The campus is landscaped with a variety of trees and open green spaces and has a hillside backdrop; four of its 15 buildings face a major quadrangle. The total campus building space is 600,000 square feet. A campus map is available on the About BCC portion of the College website.

## Information Technology Services

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BCC students are provided computer accounts for access to the campus network, current software, email, printing, and the Internet in over 20 labs on campus. Remote services are available and wireless access exists in many convenient locations. HELP desk services provide aid to students with questions and problems related to campus technology. A campus portal provides direct access to individual records, on-line courses, registration, and a variety of other student and campus information. Please visit our web site.

## BCC Foundation

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The Broome Community College Foundation, Inc. is a self-supporting not-for-profit corporation established in 1965 by BCC Trustees and community leaders to raise, invest, and administer private funds to benefit BCC, its students, and faculty. The Foundation's top priority is to assist students with grants-in-aid and scholarships, but its charter also calls for assisting faculty and staff by helping fund their professional development and training, and providing the College with equipment, seed money for special projects, and other items for which county funds are either insufficient or unavailable. The Foundation has also embarked on special capital projects such as campaigns to raise money to build and equip a new center for the College's health science programs. The Foundation serves as a conduit for all private gifts to the College. All such gifts are tax-deductible.

Over 100 community volunteers assist with the Foundation's fundraising program every year. In addition to annual gifts contributed by alumni, business and industry, community friends, organizations and foundations, the Foundation has endowment and trust funds of approximately \$10 million which help support its programs and activities.



## Alumni

The College's Alumni Affairs program provides the link to over 30,000 alumni world-wide. News of the College and from alumni is disseminated in *BROOME*, a semi-annual free publication available to all alumni whose current addresses are on file with the Alumni Affairs department.

For information about Alumni Affairs or the Foundation, call 607 778-5477 or 607 778-5182.

## BCC Continuing Education

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Broome Community College has an extensive non-credit continuing education program which features both classroom and online courses, seminars, mandated professional training, and special events open and available to the public. In addition, BCC Continuing Education provides customized training and on-site credit courses for business and industry. The Entrepreneurial Assistance Program provides one-on-one support as well as workshops and training for the small business community and entrepreneurs. For a current catalog of offerings, call 607 778-5012, or visit the BCC Website at [www.sunybroome.edu/ce](http://www.sunybroome.edu/ce)

The BCC Workforce Development Program demonstrates the College's commitment to local economic development. The mission is to produce quality non-credit and credit education and training programs for area business and industry.

BCC Continuing Education also provides students with post-associate programming through an affiliation with Excelsior College. Through a transfer agreement with Excelsior, students can take most of their coursework toward a Bachelor's degree at BCC in a variety of programs, and then transfer to Excelsior to complete their degree.

Through Continuing Education, credit and non-credit courses are available in Owego, NY and at the University Downtown Center in Binghamton, NY.

For additional information on contract education and training programs, call Workforce Development at BCC Continuing Education, 607 778-5054.



# Admissions

## Section 2





# Admissions Information

## Admissions Procedures

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Students for most majors are selected as they apply, complete the admissions process, and are found suitably qualified for a particular program. Matriculation or Admissions into the following Health Science programs at Broome Community College will be based on a competitive admissions process: Dental Hygiene, Health Information Technology, Medical Assistant, Medical Laboratory Technology, Nursing, Physical Therapist Assistant, and Radiologic Technology. More details are listed below on the Competitive Admissions process.

The following items are required by the Admissions Office before a decision can be made on a student's application.

1. Completed Application for Admission.
2. Official high school transcripts and those college transcripts required by the College. Applicants must arrange to have transcripts mailed from the high school/college attended directly to the BCC Admissions Office.
3. If applicable, General Equivalency Diploma (GED).
4. If applicable, for non-high school graduates or GED a passing grade on the Ability to Benefit Test.

Here are a few items to note concerning the application process:

- Students who wish to matriculate (required for Federal Financial Aid Grants) full or part-time in any curriculum must apply through the Admissions Office.
- American College Testing (ACT) or Scholastic Aptitude Test (SAT) score reports are not required, but if either or both are available, they should be forwarded to the Admissions Office.
- The postmark date of an application and the date an application folder is complete are important parts of the admissions process and help the College implement its first-come, first-served equal opportunity policy.
- Most programs require that prerequisite courses be successfully completed by June 30 of the summer preceding fall enrollment.

Applicants should recognize that it is their responsibility to complete the necessary forms for admission and to see that all required transcripts and/or other information are received and recognized by the Admissions Office. Completing the application process is the first step toward matriculation, which also includes being accepted into a curriculum and enrolling in coursework.

Acceptance into Broome Community College applies only to the particular semester designated in the acceptance letter. Students who do not attend BCC in the semester for which they were accepted and who wish to enroll in a future semester must reapply. Records are kept on file for one year. The reapplication process usually involves completing another application, unless additional college coursework has been completed.

International students and BCC Study Abroad Programs have separate admissions criteria.

For more information and answers to questions contact:

**Admissions Office**  
**Broome Community College**  
**P.O. Box 1017, Binghamton, N.Y. 13902**  
**Phone: 607 778-5001**  
**Fax: 607-778-5442**  
**E-mail: [admissions@sunybroome.edu](mailto:admissions@sunybroome.edu)**

The Admissions Office administers placement tests in reading, writing, and mathematics to entering students.

The information gained from these tests is used along with other records to help place students in appropriate courses. Every effort is made to place students in courses in which they can succeed. In some cases, students will be required to enroll in non-credit developmental courses.

## Early Admissions

Early Admissions is a program for high achieving high school students who can benefit from taking college courses, full or part-time, before graduating from high school. While high school seniors are usually enrolled in this program, qualified juniors may also be eligible.

Anyone interested in part-time Early Admissions should contact the BCC Admissions Office at 607 778-5001 or his/her high school counselor for the special application form. Full-time applicants should use the regular Application for Admission.

## Applicants Without A High School Diploma

Students who lack a high school or a general equivalency diploma (GED) may apply for admission if their high school class has already graduated or they are at least 19 years of age. These students must take and meet the institution's standards on an Ability to Benefit test approved by the Department of Education.

Applicants who are admitted through this method may apply to New York State for an equivalency diploma after completion of 24 hours of college credits in these subject areas:

- Six (6) credits in English language arts including writing, speaking and reading (literature)
- Three (3) credits in mathematics
- Three (3) credits in natural science
- Three (3) credits in social science
- Three (3) credits in humanities
- Six (6) credits or the equivalent in any other courses within the registered degree or certificate program

**Students admitted under the provisions of an Ability to Benefit must earn 24 credits shown above prior to receiving a certificate or degree from the College.**



## Health Science Competitive Admissions

Entry into the following Health Science programs at Broome Community College will be based on a competitive admissions process: Dental Hygiene, Health Information Technology, Medical Assistant, Medical Laboratory Technology, Nursing, Physical Therapist Assistant, and Radiologic Technology.

The Competitive Admissions process compares the academic strength of applicants to the academic preparation required for a specific Health Science program.

An Admissions Committee assesses each applicant's academic background in either high school or college level math and science courses required for the Health Science program to which they have applied. Offers of admission are made based on an applicant's academic strength compared to other applicants and number of seats available in a particular program. Meeting the minimum math and science course background does not necessarily guarantee admission. Additional consideration will be given to Broome County residents.

For entry into the Fall semester, the Admissions Office will begin making offers of admission to the *most qualified candidates* in late January. The Admissions Committee will continue to evaluate applicants through the close of applications, March 1. Applications for admission will still be considered after March 1 should seats still be available in a particular Health Science program.

Students lacking the necessary academic preparation for their chosen program make take preparatory courses at BCC to strengthen their academic background and then reapply for a future semester. Advisement is available to assist students in selecting appropriate preparatory coursework.

## Applicants With An IEP Diploma

The New York State Education Department has ruled that an IEP diploma is different from a high school diploma in that it is not an indication of successful completion of high school study. Therefore, students who hold an IEP diploma may apply for admission to BCC and will be evaluated on the same criteria used for students who lack a high school diploma or GED.

## Home-Schooled Applicants

Home-schooled students will be eligible for admission to BCC if they can provide either 1) a letter from the superintendent of the school district in which the student resides, attesting to the student's completion of a program of home instruction meeting the requirements of Section 100.10 of the Regulations of the Commissioner of Education, or 2) a passing score on the general comprehensive examination for the state high school equivalency diploma (GED) (and the diploma itself when available), or 3) students may be admitted under the provisions of Applicants Without a High School Diploma and the "ability to benefit."

## Readmission

Matriculated students who have withdrawn from the College, have not been in attendance for one semester or longer, or have graduated from BCC, must apply for readmission to return as a matriculated student. They do not need to resubmit high school records unless they have not attended BCC for six or more years.

## Admission of Ex-Offenders

Applicants to BCC who have been convicted of a felony must participate in an admissions review process. Additional information will be requested per SUNY Ex-Offender Policy. Failure to disclose a felony conviction on the Application for Admissions may result in expulsion from the College. For more information, contact the Admissions Office.

## MMR Immunization Regulations

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It is the intent of the administration of Broome Community College to comply and enforce the provisions of Public Health Law Article 21, Title IV, Section 2165-Immunization.

All students registering for 6 or more credits and attending New York State colleges and universities are required to show proof of immunity against measles, mumps, and rubella, prior to attending classes. Individuals born before January 1, 1957, are exempt from this requirement.

Proof of immunity to measles means *two doses of measles vaccine* on or after one's first birthday and at least 30 days apart, physician documented history of disease, or serological evidence of immunity. Proof of rubella immunity means one dose of rubella vaccine on or after the first birthday, or serologic evidence of immunity. Proof of mumps immunity means one dose of mumps vaccine on or after one's first birthday, a physician documented history of disease, or serologic evidence of immunity.

*NOTE: If you have graduated from a high school in the United States after June 1980, your diploma or high school transcript is acceptable proof of having had one measles vaccination. YOU STILL MUST PROVIDE PROOF OF THE measles, mumps, and rubella vaccination within the past year of application to the College.*

## Meningococcal Meningitis Vaccination Response Form

New York State Public Health Law #2167 requires that all college and university students enrolled for at least six semester hours be informed of information regarding meningococcal meningitis disease, including the risks of **NOT** receiving the vaccine. Vaccination is optional. Student **MUST** return response form prior to being enrolled for classes to the Office of Student Health Services, Science Building, Room 102.

## International Students

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### General Information

Broome Community College welcomes students from other countries. The College is authorized by the U.S. Justice Department to issue the necessary Certificate of Eligibility for Nonimmigrant F-1 Student Status (Form I-20) to international students planning to enter the U.S. and attend BCC on an F-1 Student Visa.

*For additional information and for the necessary forms to apply to Broome Community College as an international student, contact the Admissions Office, 607 778-5001; FAX 607 778-5442; e-mail: [admissions@sunybroome.edu](mailto:admissions@sunybroome.edu)*

# International Admission Requirements

International student applicants should submit the following to the Admissions Office:

1. Application for Admission and the International Applicant Information form. Both forms can be obtained by contacting the Admissions Office.
2. Official or certified copies of all secondary and post-secondary academic records ( transcripts). Records should include the grades/marks of all subjects completed and the results of any external examinations. Records should also indicate any diplomas, degrees or certificates earned. If records are not in English, a certified, literal translation should be sent with the official document.
3. English Language Proficiency &em; Any international student applicant whose native language is not English must demonstrate an acceptable English language proficiency to be considered for admission.  
This requirement can be met by (1) submitting a minimum TOEFL score of 97 (400 paper-based) *OR* (2) submitting official academic records which show the successful completion of at least four years of English language study at the secondary school level or higher.  
Unless specifically waived, a placement test is given to all international students upon application to the College to determine the appropriate English course level to enroll. The placement test also determines the appropriate mathematics course level to enroll. Students who score at a lower or intermediate English proficiency level need to enroll in full time, intensive English-As-A-Second Language (ESL) study and continue ESL coursework each semester until an appropriate proficiency is met. Students who score or progress to an advanced English proficiency level may take regular academic courses in their program of study along with continued ESL study.  
Students who submit a TOEFL score of 197 (527 paper-based) or better can begin the regular academic curriculum in their program of study if they have the appropriate academic background. The College's placement test used in conjunction with the TOEFL score will help determine appropriate course placement.
4. Financial Documentation (Required for F-1 Student Visa Applicants) International student applicants planning to attend Broome Community College on an *F-1 Student Status* must demonstrate that they have the financial means to cover their educational and living expenses while attending the College. A Declaration of Financial Support Form (Affidavit of Support) should be completed and returned with the appropriate financial documentation requested on the form. Upon acceptance to the College, a *Certificate of Eligibility for Non-immigrant F-1 Student Status (Form I-20)* will be sent to the applicant. An I-20 is a required document for an F-1 Student Visa to enter the United States and attend Broome Community College.  
*F-1 Transfer Students in the United States:* An international student *currently* attending a college or university in the United States on an F-1 student status and seeking to transfer to Broome Community College will need to obtain a new I-20 issued by BCC and fulfill transfer eligibility requirements. After admission to Broome Community College, the international student's International Student Advisor will need to be complete a Transfer Eligibility Form. This form will sent to the student upon acceptance to BCC.  
Applicants on an F-2, B (visitor) or other non-immigrant statuses should contact the Admissions Office for any additional admission requirements.
5. Proof of health insurance is required of all international students prior to course registration. Certification of coverage will be required at the time of registration by an appropriate college official. Any student not having proof of insurance will be required to purchase the college sponsored plan, which is available through the College's Student Health Services Office. Married students are expected to provide coverage for their dependents.



## Other General Information:

The International Student Counseling Office, located in the Student Services Building, Room 210, provides counseling to international students throughout their enrollment at the College. This office conducts an international student orientation prior to the beginning of classes to help international students understand their immigration responsibilities as well as plan their academic curriculum and become accustomed to the American educational system. This office also assists international students in finding housing off-campus. The International Student Counselor is available to counsel and assist international students with academic, career and personal concerns.

International students who are seeking transfer credit to BCC, earned from an educational institution outside the United States, are required to submit an official evaluation of their educational documents (transcripts) from an approved foreign credential evaluation agency. Information on approved agencies is available from the Admissions Office.

Through special arrangement, the College can accommodate sponsored groups of 10 or more students who do not meet the English language proficiency requirements described above.

## Academic Standards for Clinical Education

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Academic Standards for Clinical Education in the Health Sciences programs require dismissal of students who fail to meet established academic objectives for the physical safety, psychological safety, and confidentiality of patients.

Students interested in Health Science curricula are advised to see the appropriate department chairperson upon admission to the program. Annual physical examination, including Mantoux and other testing, is required in most curricula.

## OSHA standards

Although not required by either Broome Community College or the State University of New York, students enrolled in health science programs, where clinical experience or on-campus Dental Clinic is a curriculum requirement, should note that compliance with the OSHA Bloodborne Pathogen Standards is mandated.

The OSHA standards on Exposure to Bloodborne Pathogens require employees to either be vaccinated for hepatitis or to sign the appropriate form declining the vaccination. The standards do not mention students. Nonetheless, many affiliate health agencies are requiring students to comply with the regulations, and hepatitis vaccinations are strongly recommended by most Health Science curricula.

## Full Opportunity Program

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Broome Community College has a Full Opportunity Program, which is designed to give every individual a chance to fulfill his/her own personal goals and potential.

All Broome County applicants who have graduated from high school within the prior year, or applicants who have been released from active duty with the Armed Forces of the United States within the prior year, are given priority for admission until March 1 and are guaranteed admission to the College, but not necessarily assured of space in the programs of their choice. To be admitted to any program of study, all applicants must meet the academic requirements of that program. Students without the required academic background for a particular curriculum will be accepted into a program or selection

of courses for which they qualify. Some students may require more than two years to complete a program of study.

Broome Community College does not discriminate on the basis of race, sex, color, religion, age, national origin, disability, marital status, sexual orientation, or status as a disabled veteran or veteran of the Vietnam era in the recruitment or education of students; the recruitment and employment of faculty and staff; or the operation of any of its programs or activities. Where relevant, state and federal laws apply.

## Credit Evaluation

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### Transfer and Articulated Credit

College level course credits earned at regionally accredited\* post-secondary institutions can be transferred to Broome Community College. Credits earned at non-regionally accredited institutions with which Broome Community College has a current articulation agreement may also be transferred to BCC.

\*Regional Accrediting Bodies: Middle States, New England, North Central, Northwest, Southern, and Western.

Transfer credit is subject to the approval of the Department Chairperson or Dean's designee and with the following provisions:

Broome Community College must receive official transcripts of all college-level work completed at other regionally accredited colleges before formal transfer credit will be awarded.

Grades earned at other institutions will not be entered into the cumulative grade-point average (GPA) at Broome Community College.

Grades of "C" or higher are transferable if coursework is relevant to the student's program of study at Broome Community College. "C-" and "D" grades may be transferable with the approval of the Department Chairperson or Dean's designee.

Credits earned at foreign post-secondary institutions may also be transferred, subject to review and approval of the Department Chairperson or Dean's designee from the division in which the student matriculates. Students applying for foreign credit transfer must submit an official evaluation of foreign educational credentials from an accredited evaluation agency.

### Advanced Placement Examination (AP)

The College will recognize for credit the AP examinations of the College Entrance Examination Board. A score of three or above is generally acceptable for credit, but each academic department establishes its policy. Laboratory courses may require additional lab work for full credit for a college course. Credit awarded will be handled as a transfer credit.

## College Proficiency Exams (CP)

The CP exams of the University of the State of New York will be recognized for credit upon approval by the appropriate department. Credit awarded will be handled as transfer credit.

### Requirements and/or Recommendations - Academic Preparation for Admissions

| Curricula  | Requirement | Recommendation  |
|--|-------------|---|
| Accounting   |             | Mathematics Level 1   |
| Business   |             |   |
| (General Emphasis)   |             |   |
| (Office Administration)                                      |             |   |
| Financial Services   |             |   |
| Hotel/Restaurant Management                                  |             |   |
| Marketing  |             |   |
| Paralegal  |             |   |
| Computer Technology<br>(Network and WEB tracks) <sup>1</sup> |             | Mathematics Level 2   |
| Business Information Management                              |             | Mathematics Level 1   |
| Entrepreneurship   |             |   |
| Business Administration                                      |             | Mathematics Level 3   |
| Business Administration                                      |             |   |
| International Business Emphasis                              |             |   |
| Management   |             |   |
| Chemical Dependency Counseling                               |             | The Mathematics Level of preparation will vary according to degree and program. |
| Communications and Media Arts                                |             |   |



Criminal Justice -  
Corrections

Criminal Justice - Police

Early Childhood

Fire Protection Technology

General Studies:

Art/Design, Music,

Acting/Theater,

Teacher Education

Human Services

Individual Studies

Liberal Arts

Civil Engineering  
Technology <sup>1</sup>

Mathematics Level 3

Computer Information  
Systems <sup>1</sup>

Regents Physics or A.S. III, IV

Computer Technology  
(Technical Track) <sup>1</sup>

Industrial Technology

Mechanical Engineering  
Technology

Electrical Engineering  
Technology <sup>1</sup>

Mathematics Level 3

Computer Science <sup>1</sup>

Mathematics Level 4  
Advanced Algebra or Pre-  
Calculus  
Regents Physics, Regents  
Chemistry or A.S. I, II, III, IV

Engineering Science <sup>1</sup>

Mathematics Level 4  
Regents Chemistry, Regents  
Biology,  
Regents Physics or A.S. I, II,  
III, IV

|   |  |  |
|---|--|--|
| *Dental Hygiene <sup>1,2</sup>                | Mathematics Level 1<br>Chemistry, Regents Biology OR A.S. I, II (minimum grade 74 in all mathematics and science courses)  |  |
| *Health Information Technology <sup>1,2</sup> | Mathematics Level 1 Regents Biology <sup>4</sup><br>OR A.S. I, II  |  |
| *Medical Assistant <sup>1,2</sup>             | Regents Biology <sup>4</sup> OR A.S. I, II   | Mathematics ability equivalent to Applied Math I, Local Math I, Course I, or higher                                  |
| *Medical Laboratory Technology <sup>1,2</sup> | Mathematics Level 3 Regents Biology <sup>4</sup> ,<br>Regents Chemistry <sup>4</sup> OR A.S. I, II, III, IV (minimum grade 74 for all mathematics and science courses) |  |
| *Nursing <sup>1,2</sup>                       | Mathematics Level 2 Regents Biology <sup>4</sup> ,<br>Regents Chemistry <sup>4</sup> OR A.S. I, II, III, IV (minimum grade 74 in all mathematics and science courses)  |  |
| *Physical Therapist Assistant <sup>1,2</sup>  | Mathematics Level 2 Regents Biology <sup>4</sup> ,<br>Chemistry <sup>5</sup> OR A.S. I, II (minimum grade 74 in all mathematics and science courses)                   |  |
| *Phlebotomy                                   |  | Mathematics Level 1,<br>Regents Biology OR A.S. I, II  |
| *Emergency Medical Technology/Paramedic       |  | Mathematics Level 1<br>Regents Biology, Regents Chemistry<br>OR A.S. I, II (minimum grade 74 in all science courses) |
| *Radiology Technology <sup>1,2</sup>          | Mathematics Level 2 Regents Biology <sup>4</sup> ,<br>Regents Physics OR A.S. I, II, III, IV (minimum grade 74 in all mathematics and science courses)                 |  |

**NOTE:** See "Mathematics Equivalencies for Use in Admissions Decisions"

**ALL GRADES ARE FINAL CLASS AVERAGES, NOT REGENTS EXAM GRADES**

<sup>1</sup>BCC has a developmental program that enables students lacking the proper academic preparation for professional level courses to enroll in appropriate credit or non-credit courses that will qualify them. They can take these courses at BCC or elsewhere preceding their admission. Applicants who elect to take these courses during the spring and fall semesters would need more than two years to complete the curriculum.

<sup>2</sup>If prerequisite courses are taken at BCC, a grade of 2.0 or better is required.

<sup>3</sup>AM is Applied Math and AS is Applied Science as defined by Tech Prep. PT is Principles of Technology. ABC is Applied Biology & Chemistry.

<sup>4</sup>Equivalent course substitutions may be determined by the department chair/dean.

<sup>5</sup>Students not completing the recommended high school courses may take longer than 2 years to complete the degree requirements.

## Mathematics Equivalencies For Use In Admissions Decisions

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For each column below, it is assumed the student successfully completed the requirement listed.

| Level of Mathematics Proficiency | Regents Course                             | Math A/B Exam Score                | Applied Math Course        | Other High School Course  |
|----------------------------------|--|------------------------------------|----------------------------|---|
| Level 1                          | Regents Course I                           | Math A                             | Applied Math I and II      | Algebra I   |
| Level 2                          | Regents Course I and II                    | Math A with minimum score of 85    | Applied Math I, II and III | Algebra I and Geometry  |
| Level 3                          | Regents Course I, II, and III              | Math B                             | Applied Math I through IV  | Algebra I, Geometry, and Algebra II with Trigonometry                                       |
| Level 4                          | Regents Course I, II, and III plus Math 12 | Math B plus Math 12 (Pre-Calculus) | N/A                        | Algebra I, Geometry, and Algebra II with Trigonometry plus Advanced Algebra or Pre-Calculus |

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# Expenses

## Section 3





## Expenses

<sup>1</sup>The BCC Board of Trustees establishes tuition and fee amounts for each semester. The amounts below were established for the 2009-10 year only. Semesters beyond that point are subject to increase.

<sup>2</sup>The College establishes tuition and fee refund policies and procedures each year in accordance with federal and state mandated regulations. The policies and procedures in this section were established for the year 2009-10. Years beyond that point are subject to changing Federal and State guidelines, thus future College refund policies and procedures are subject to change. The regulations for any particular year are available at Registrar, Financial Aid, and Student Accounts Offices.

## Tuition

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Tuition and fees are payable at the Student Accounts Office according to a payment schedule released by the College each semester. The responsibility for payment rests upon the student. Both full-time and part-time students who have registered for courses will be "de-registered" if they fail to meet established due dates for tuition/ fee payment.

*Students who are administratively dropped for non-attendance during the semester continue to have a tuition and fee obligation.*

## Students Carrying 12 or more Credits or Credit-Equivalent Hours

(considered full-time students)

### For New York State residents

- with residency certificate:  
**\$1,638** per semester <sup>1</sup>
- without residency certificate:  
**\$3,276** per semester <sup>1</sup>

### For out-of-state residents

- **\$3,276** per semester <sup>1</sup>

## Tuition Deposit Policy

Students admitted to the College prior to August 1 may be requested to submit a \$50 tuition deposit. This payment will be applied toward the Fall semester tuition bill for those students who register. Students who do not register for the Fall semester can obtain a refund of the tuition deposit, through the end of the first week of classes, by submitting a request in writing to the College Controller. At the end of the first week of classes, the tuition deposit is non-refundable

# Students Carrying Fewer than 12 Credits or Credit-Equivalent Hours

(considered part-time students)

## For New York State residents

- with residency certificate \$137 per credit <sup>1</sup>
- without residency certificate \$274 per credit <sup>1</sup>

## For out-of-state residents

- \$274 per credit hour <sup>1</sup>

## Residency Certificate

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To qualify for the resident tuition fee, a student is required by law (NYS Education Law, Section 6305) to present once each academic year, a residency certificate indicating that he or she has been a legal resident of the State of New York for one year, and of a county for six months.

New York State Counties will issue certificates up to 60 calendar days prior to the start of the semester and until 30 calendar days into the semester. Counties are permitted by law to refuse applications after the 30th day of the semester. Many counties adhere to this deadline with NO EXCEPTIONS.

**Please visit the Residency Information web page for details.**

## College Fees<sup>1</sup> (mandatory)

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*College fees are non-refundable.*

|   |                                      |
|---|--------------------------------------|
| Matriculation fee (one-time fee)              | \$70 <sup>1</sup>                    |
| Service fee (Non-Matriculated) (per semester) | \$10 <sup>1</sup>                    |
| Distance Learning Fee                         | \$ 5 per credit hour <sup>1</sup>    |
| Laboratory fees                               | \$40 per lab <sup>1</sup>            |
| Music   | can up to \$500 per lab <sup>1</sup> |
| Technology fee (per semester)                 |                                      |
| full-time, fall/spring                        | \$60 <sup>1</sup>                    |
| part-time, fall/spring                        | \$50 <sup>1</sup>                    |
| full time/part-time, summer                   | \$50 <sup>1</sup>                    |

|  |  |
|--|--|
| Vehicle Registration fee                     | \$50 <sup>1</sup>                        |
| Summer only                                  | \$10 <sup>1</sup>                        |
| Late Registration fee                        | \$10 <sup>1</sup>                        |
| (begins on first day of semester)            |  |
| Credit by Examination                        |  |
| Non-Laboratory Course                        | \$50 <sup>1</sup>                        |
|  | plus \$15 per credit hour                |
| Laboratory Course                            | \$50 <sup>1</sup>                        |
|  | plus \$15 per credit hour                |
|  | plus \$10 for each clock hour of lab     |
|  | examination (maximum \$165) <sup>1</sup> |
| Credit by Evaluation                         |  |
| (Portfolio Assessment)                       | \$75 <sup>1</sup>                        |
|  | plus \$15 per credit hour <sup>1</sup>   |
| Health Science Clinical Makeup fee           | \$50 <sup>1</sup>                        |
| Rush Transcript fee                          | \$ 5 <sup>1</sup>                        |
| Fax fee                                      | \$ 5 <sup>1</sup>                        |
| (up to 5 pages &em; \$1 per page thereafter) |  |
| Duplicate Record fee                         | \$1 per copy                             |
| Mailing fee                                  | \$5 per folder                           |
| Returned Check fee                           | \$25 <sup>1</sup>                        |

Courses requiring outside services, such as PED 170 Trail Riding, Music Lessons, etc., may require students to pay additional out of pocket expenses directly to those service providers.

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## Student Fees (mandatory)

**Student Fees are non-refundable.**

### Student Activity Fee

Full-Time Student                      \$85 per semester <sup>1</sup>

Part-Time Student                      \$7 per credit hour <sup>1</sup>

I.D. Card Replacement fee   \$10 per card <sup>1</sup>

The activity fee entitles all students to admission to varsity games, convocations, student activities, as well as the opportunity to participate in a varied program of co-curricular activities, including intramural athletics.

The Student Activity Fee funds the following types of programs on campus: the Student Handbook and Planner, Orientation, 40 clubs and organizations, 12 athletic teams, intramural sports, travel, Common Hour programs, family events, films, picnics and more.

### Accident Insurance, Student Health Service Fee

Full-Time Student (mandatory)

Accident Insurance                      \$11 per year <sup>1</sup>

First time full-time in spring      \$7 <sup>1</sup>

Health Service Fee (mandatory)

Full-Time Students                      \$7 per semester <sup>1</sup>

Part-Time Students                      \$4 per semester <sup>1</sup>

Money collected from the Health Service fee is used for physician services, drugs, supplies, educational material, diagnostic equipment, special health programs and related Health Service expenses. The fee is non-refundable if the student withdraws from the College.

The accident policy covers the student for 12 months commencing the first day of classes for expenses incurred as a result of an accident, on or off campus. Maximum coverage is \$2,500 per accident. Claim forms are available in the Student Health Services. Claims must be filed with Student Health Services before expenses will be paid. Part-time students may also enroll in the accident insurance program. The fees and coverage are the same. Contact Student Health Services for more information. *Students who withdraw and wish a refund of their accident policy must apply directly to the insurance company.*

## International Student Health Insurance

*International students are required to demonstrate proof of health insurance coverage prior to enrollment at the College. International health insurance is available through the College on a semester to semester basis. Rates upon request.*

*Claim forms are available at the SHS office during the year. Students who wish to withdraw must request a refund of their health insurance fee by applying directly to the insurance company. .*

## Medical Insurance

The College does not provide medical insurance. Information about such insurance is available through Student Health Services and directly from insurance companies.

## Books, Supplies, Uniforms and Other Expenses <sup>^top</sup>

Students are expected to purchase textbooks and related instructional materials for the courses in which they are enrolled. These may be purchased at the Bookstore located in the Campus Services Building. The average cost of textbooks and required supplies varies depending on curriculum and ranges between \$200 and \$700 per semester.

In the Health Science curriculums students will provide, at their own expense, their own transportation to off-campus locations for necessary clinical and other experience. Students are also required to have a physical examination which may cost as much as \$100.

In addition, some curriculums require uniforms. Among these are Hotel/Restaurant, Nursing, Radiologic Technology, Medical Laboratory Technology, Medical Assistant and Physical Therapist Assistant. Gym clothes are necessary for physical education classes. Dental instruments and pants-type uniforms are prescribed for Dental Hygiene students.

A Windows-Multi-Media Pentium home computer is strongly recommended for Engineering Science and Computer Studies students.

The following estimated expenses are **in addition** to the usual cost of text books:

|                        | Freshman | Senior |
|------------------------|----------|--------|
| Business Technologies  | \$ 50    | 100    |
| Civil Technology       | 60       | \$90   |
| Dental Hygiene         | 1,500    | 900    |
| EMT Paramedic          | 100      | 100    |
| Engineering Science    | 325      | 750    |
| Industrial Technology  | 90       | 90     |
| Mechanical Engineering |          |        |

|                        |     |     |
|------------------------|-----|-----|
| Technology             | 90  | 90  |
| Medical Assistant      | 60  | 250 |
| Medical Lab Technology | 50  | 200 |
| Health Information     |     |     |
| Technology             | 105 | 75  |
| Nursing                | 75  | 500 |
| Radiologic Technology  | 650 | 375 |

## Refund Policies, Procedures

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### Tuition Refund Policy <sup>2</sup>

Effective FALL 1998, New York State has mandated the current refund policy for all SUNY community colleges.

## Fall and Spring Semesters

Students who *officially withdraw* from classes during the first three weeks of a semester will be entitled to tuition refunds on the following basis - 100% refund before the first day of the semester; 75% on or before day 5 of the semester; 50% on or before day 10 of the semester; and, 25% on or before day 15 of the semester. After day 15 of the semester, there is no refund.

"Day of semester" does not refer to specific class meetings. It refers to actual day of the campus wide semester.

TITLE IV FINANCIAL AID RECIPIENTS PLEASE SEE TITLE IV FINANCIAL AID REFUND POLICY ON THIS PAGE.

*Note: Refunds for courses less than 15 weeks in length are prorated based on the length of the course.*

## College On The Weekend

Refunded at 100% up to 5 p.m. on first Friday of Weekender classes; 75% refund through the Friday following the first weekend of classes (0% refund thereafter).

## Summer Session

Students who withdraw from Summer Session classes will be entitled to a 100% refund through the last business day, before the first day of the semester. Refunds are reduced to 25% for students withdrawing on or before day 5 of the semester. After that, there will be no refunds.



## **Refund Procedure <sup>2</sup>**

An application for refund of tuition and fees must be made in writing in the Registrar's Office (SS 105). The application must be on the College form provided. The date on which the application is filed is considered the official date of the student's withdrawal and any refund to which the student may be entitled is computed using that date.

## **Title IV Financial Aid Refund Policy <sup>2</sup>**

Students who receive Title IV financial assistance (Pell, SEOG or Stafford Loans) are subject to the most recent guidelines mandated by the Higher Education Act Amendment. If -and only if- they officially withdraw or are administratively withdrawn from the institution, the unearned funds received for tuition, fees, and other educational expenses, must be returned to the Federal Title IV programs. This return may result in an outstanding balance due to Broome Community College and/or to the U.S. Department of Education. All other cases (e.g. partial withdrawals) will follow the N.Y.S. mandated refund policy for community colleges.

## **Other Procedures**

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Students who defer tuition on Financial Aid, and who then become ineligible to receive that aid or any portion of it, will be subject to an immediate obligation for payment and/or collection of tuition, fees and disbursements. The College reserves the right to use whatever collection procedures it deems appropriate to satisfy any outstanding debt. The total outstanding debt may include additional costs incurred due to collection activities. The cost will vary depending on the debt. Additional costs may be as much as 33 1/3 percent of the debt plus attorney/court fees.

## **Withholding Diplomas and Transcripts**

A student's Official College Transcript and diploma will be withheld if there are outstanding financial or property-returning obligations. These could be to such College offices as Security, Learning Resource Center (Library), Student Accounts, Physical Education, as well as others. Students must settle any such outstanding debts to the College and then present evidence of the settlement to the Office of the Registrar.

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# Financial Aid

## Section 4





# Financial Aid

## General Information

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Considerable financial aid is available at Broome Community College, and the Financial Aid Office helps students through the financial aid process. Information about financial aid is sent to students who are seeking financial aid when they apply for admission. Any student accepted into a degree or certificate program and taking one or more classes may apply for financial aid.

Financial aid at BCC falls into three broad categories: 1) grants that do not have to be repaid; 2) loans on which interest rates are usually low and that must be repaid after graduation or leaving college; 3) part-time employment called "Work-Study." Assistance usually comes from a combination of these resources, commonly referred to as a "financial aid package."

## Student and Family Resources

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"Financial need" is a term used to describe the funds required by a student to pay for his/her college education in excess of the amount that he/ she and parents can afford to pay. Financial need is determined by using a standardized formula, which defines the "initial" or "demonstrated" need. The formula:

**Cost of attendance** (including tuition, fees, books, room, board, transportation, etc.)

— **Family Contribution** (based on student's and parents' net assets, income, household size, number in college, etc.)

**= Financial Need**

The Financial Aid Office at Broome Community College operates on the premise that all parents and students have a responsibility to contribute as much as they can toward the cost of the student's education. This contribution plays the primary role in determining the actual initial need.

To qualify for financial aid, a student must be enrolled in a degree or certificate program of the College, be taking one or more classes, and have initial or demonstrated need. This need can be met in a number of different ways; a combination of grants, loans and work-study funds in varying amounts. These are determined by the financial aid administrator and are called a "financial aid package."

Many students would be unable to attend college without financial aid. However, no matter when application for financial aid is made, disbursement of awarded money is not always made on an "as needed" basis. Students should have sufficient resources available for living and educational expenses for 12 weeks into a semester to confirm attendance.

## Estimating Expenses 4

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Below is a chart showing the estimated average costs for the 2009-10 college year for student expenses. It covers a 9-month period; the length of the college year, September to May.

### Cost of Attendance

|                         |               |
|-------------------------|---------------|
| Tuition <sup>4</sup>    | \$3,276       |
| Fees <sup>1,4</sup>     | 398           |
| Books                   | 1,400         |
| Transportation          | 1,650         |
| Personal Expenses       | 1,004         |
| Room & Board            | 3,929         |
| Child Care <sup>2</sup> | NA            |
| <b>Total</b>            | <b>11,657</b> |

Non-NY State Resident: <sup>3,4</sup>

|                      |                 |
|----------------------|-----------------|
| (Additional Tuition) | \$3,276         |
| <b>Total</b>         | <b>\$14,933</b> |

<sup>1</sup> Lab fees are \$12 or \$40 per lab (not included in the above estimates).

<sup>2</sup> A child care allowance is added to the student's budget only when documentation of these expenses is submitted to the Financial Aid Office.

<sup>3</sup> An out-of-state resident must pay additional non-resident tuition.

<sup>4</sup> The tuition and fees amounts had not been officially established when this catalog was being prepared. The amounts may be subject to increase.

**- ALL COSTS ARE SUBJECT TO CHANGE -**

*To be considered for financial aid, students must apply each academic year.*

## Tuition Deferral Payment

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All Financial Aid funds (with the exception of Work-Study, Stafford and Unsubsidized Stafford loans, PLUS loans, EOP, Pauline Parker, and miscellaneous financial aid funds) will be applied to the recipient's outstanding tuition and fees for the current semester. Those applicants without finalized financial aid packages may be able to defer tuition payment by making arrangements with the Financial Aid Office.

*Broome Community College does not defer SUMMER tuition based on a TAP award or on a student loan.*

## Rights and Responsibilities of Recipients

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Student recipients of financial aid are the beneficiaries of money made available by a variety of agencies; federal, state, institutional, and/or private. The act of accepting a financial aid award

signifies that the recipient knows, understands, and is willing to comply with both the rights and the responsibilities involved with that award.

## **It is the recipient's RIGHT to know:**

1. What federal, state, and institutional financial aid programs are available.
2. The deadlines for submitting application forms for each assistance program.
3. The cost of attending the College and the refund policy.
4. The criteria used by the College to determine academic eligibility.
5. What resources (such as parental contribution) are considered in the calculation of financial need and how much of that need, as determined by the College, has been or will be met, and how (loan, grant and/or workstudy).
6. How much of the financial aid will have to be repaid, and what portion is a grant (gift-aid). If the aid is a loan, the recipient should know what the interest rate is, the total amount that must be repaid, the repayment procedures, the length of time allowed to repay the loan and when repayment is to begin.
7. How the College determines whether the student recipient is making satisfactory progress and what happens if progress is not made.

## **It is the recipient's RESPONSIBILITY to:**

1. Know and understand fully the financial aid program and one's specific financial aid package before signing forms.
2. Make sure that all application forms are completed accurately and submitted, on time, to the right place.
3. Pay special attention to, and accurately complete, the application for student financial aid. Errors can result in long delays in the receipt of financial aid. Intentional misreporting of information on application forms for federal financial aid is a violation of law and is considered a criminal offense subject to penalties under the U.S. Criminal Code.
4. Return any and all additional documentation, verification, correction, and/or new information requested by either the Financial Aid Office or the agency to which the application is submitted.
5. Read and understand all forms that one signs and keep copies of them.
6. Accept responsibility for all agreements signed.
7. Notify the lender of changes in name, address, or school status, if one has a loan.
8. Perform the work that is agreed upon in accepting a Federal Work-Study award.
9. Know and comply with the deadlines for application and/or reapplication for aid.
10. Know and comply with the College's refund procedures.
11. Understand how class attendance and passing grades that result in good academic standing relate to the continuance of Financial Aid.

## **How to Apply for Financial Aid**

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## **Packaging Policy**

At Broome Community College the equity concept of financial aid packaging is used. Eligible students are funded on a need basis and in first-come, first-served order.

The Federal Pell Grant and the New York State Tuition Assistance Program (TAP) represent the floor of the package followed by any employment, loans, and grants available.

This kind of financial aid packaging ensures that any student who wishes to attend a post-secondary institution will have the opportunity to obtain the needed funding.

An example of the equity concept:

1. Total Student Costs of Attendance
2. Subtract Resources:
  - a. Parental Contribution
  - b. Student Contribution
  - c. Other Resources

---

**= Initial Financial Need**
3. Subtract:
  - a. Tuition Assistance Program (TAP)  
Grant or Estimate
  - b. Federal Pell Grant or Estimate

---

**= Unmet Need for Campus-Based Aid**
4. Subtract:
  - a. Educational Opportunity Program (EOP)
  - b. FWS
  - c. FSEOG
  - d. BCC-Grant in Aid

---

**= Unmet Need**

Most students are able to satisfy their unmet need through the Federal Stafford Student Loan Program. The amount of unmet need may vary from year to year.

## Federal and State Grants

All financial aid applicants will be expected to apply for two major sources of financial aid: the Federal Pell Grant and New York State's Tuition Assistance Program (TAP). Out of state residents should contact their State Educational Agency or the Financial Aid Office for information on state grant assistance from their state of residence. Although the College provides information and assistance, these funds are not generated by the College and must be applied for directly by the student to the agency. Students may apply for the Pell and TAP grants with the Free Application for Federal Student Aid (FAFSA) and the New York State TAP application.

Part-time students who enroll for at least 3 but less than 12 credits may be eligible for New York State's Aid for Part-Time Study (APTS) program. Unlike TAP, students must apply directly to the College for determination of eligibility.

Applications and information regarding these and other programs are available at the Financial Aid Office (Student Services Building, Room 111, Phone 778-5028). The FAFSA application is available at <http://www.FAFSA.ED.GOV>.



## Campus-Based Financial Aid

For a student to be considered for both the Federal Pell Grant and financial aid administered by the College (Campus-Based Aid), the Financial Aid Office must electronically receive the student's Institutional Student Information Record (ISIR) from the FAFSA processor. Receipt of the ISIR will allow students to be considered for the following campus-based financial aid, in addition to the Federal Pell Grant:

## Federal Campus-Based Aid

- Federal Work-Study (FWS)
- Federal Supplemental Educational Opportunity Grant (FSEOG)

## Institutional Campus-Based Aid

- BCC Foundation Grants

The College administers a number of programs which have been established by private individuals, companies, and organizations. These scholarship and grant programs have varying eligibility requirements. Students who wish to apply for these special scholarships must complete the FAFSA.

## Priority Funding Dates

Fall Semester      April 1

Spring Semester   November 1

Incoming students should apply for financial aid when they apply for admission. Because all campus-based funds are limited, students are strongly encouraged to submit the appropriate forms at least four weeks before the above priority dates.

Completed applications received prior to April 1 will be given first priority. Applications received after this date will be considered as long as funds are available, and will be completed in date-received order.

The FAFSA should be completed on-line ( <http://www.fafsa.ed.gov>) before March 1. After processing, the student will receive an acknowledgment and the College will receive an electronic ISIR from the Federal processor. All students are required to complete a FAFSA, regardless of their eligibility for Federal Pell Grant funding, in order to be considered for any of the Federal financial aid programs.

## Verification

Once the Financial Aid Office has received the results of your processed application, you may be selected for a process called verification. This is a procedure used to check the accuracy of the information you reported on your federal financial aid application. You will be required to bring or send any supporting documentation that is necessary to verify the information you reported. If selected, you must complete the process before your financial aid can be awarded.

## Notification of Decisions

Students are generally notified of the action taken on their application beginning in mid-March and continuing on a rolling basis. Students who apply late will be notified as their files are completed.

If a student's request for aid is denied, the reasons for the decision are explained. Students may request an appeal of financial aid decisions by writing a letter to the Director of Financial Aid.

*NOTE* — Students who have been administratively dropped from their class(es) for non-attendance will receive a reduced financial aid award. If financial aid has already been disbursed, a repayment of a portion or all of these funds may be owed to the Federal program.

## Satisfactory Academic Progress for TAP, APTS, and Title IV Aid <sup>^top</sup>

Federal regulations require aid recipients to maintain "satisfactory academic progress" before receiving Title IV aid (Federal Pell Grant, FWS, FSEOG, Federal Stafford Student Loan, Federal Unsubsidized Stafford Loans and FPLUS). The College also requires satisfactory academic progress before students may receive grant assistance from the BCC Foundation or Educational Opportunity Program (EOP). The guidelines used to determine academic progress are outlined on page 23 of the catalog.

Students who have been placed on academic probation may continue to receive financial assistance while on probation. These students have one semester to achieve the minimum standards before facing dismissal from the College.

Students who have been academically dismissed will be denied aid until they meet the criteria set forth for satisfactory academic progress. Students who petition for a waiver of dismissal may be eligible for financial aid under the following conditions: 1. The student is granted an academic petition due to unusual circumstances; 2. After dismissal the student has completed 6 or more credit hours in a single term and received grades of "C" or better in all credit hours attempted. Only one petition of academic dismissal based on unusual circumstances and only one petition of academic dismissal based on completion of 6 or more credit hours is allowed during a student's educational career.

Students who are allowed to continue taking classes but are not in good academic standing are not eligible to receive financial aid.

The College has also adopted New York State Tuition Assistance Program (TAP) and Aid for Part-Time Study (APTS) guidelines which require good academic standing for students to continue receiving TAP & APTS. Contact the Registrar's Office in Room 105 Student Services Building for a copy of the guidelines.

## Financial Aid Refund Policies and Procedures <sup>^top</sup>

Financial aid refunds will be made for those students who receive tuition and fee refunds in accordance with the College's refund policy (see page 15), and for those students who are administratively withdrawn from classes due to non-attendance (see page 25). Students who are administratively withdrawn for non-attendance, or who drop classes during the first week of the semester, will lose 100% of the financial aid received for each course that is dropped. All other students may lose a percentage of their financial aid based on the percentage refund of tuition and fees that they receive.

As mandated by Federal law, the institution will credit refunds of financial aid in the following order:

- a. To outstanding balances on Unsubsidized FFEL/Direct Stafford Loans;
- b. To outstanding balances on Subsidized FFEL/Direct Stafford Loans;
- c. To outstanding balances on Perkins loans;
- d. To outstanding balances on FFEL/Direct PLUS Loans;
- e. To Federal Pell Grant awards;
- f. To Federal Academic Competitiveness Grants;
- g. To Federal SEOG awards;
- h. To other Title IV aid programs;
- i. To other Federal, State, Institutional or private aid; and
- j. To the student.

## Grants

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**NOTE** &#247; The following financial aid information is current as of Fall 2009. Due to reauthorization of the Higher Education Act, some of this information may be changed during the academic year. Please contact the Financial Aid Office for updated or additional information.

### Eligibility

### Amount Per Year

### Where/How To Apply

#### TUITION ASSISTANCE PROGRAM (TAP)

Summer TAP Awards are available for students taking six or more credits who are full time in the prior spring term, and who have earned 24 credit hous at BCC in the prior two terms.

Full-time student at any accredited college in New York State. Resident of New York State. Income and academic guidelines involved.

\$500 to \$5,000, not to exceed 100% of tuition. Based on income.

New York State Higher Educational Services Corp. (HESC) 99 Washington Avenue Albany, N.Y. 12255 Forms are mailed to student by HESC; must apply with FAFSA; applications available online at <http://www.HESC.com>.

#### VIETNAM VETERANS TUITION AWARD SUPPLEMENT

Full-time and part-time students who are US citizens, residents of NY State and served in the armed forces in Indochina between December 22, 1961 and May 7, 1975 who have been discharged from the service under other than dishonorable circumstances.

Up to \$1,000 per semester or tuition (whichever is less) for full-time students; Up to \$500 per semester or tuition (whichever is less) for part-time students. Cumulative total may not exceed \$10,000.

Full-time students must also apply for Pell and TAP grants; part-time students must apply for Pell grant. New York State Higher Educational Services Corp. (HESC) 99 Washington Avenue Albany, N.Y. 12255. <http://www.HESC.COM>

#### CHILD OF VETERANS AWARD SUPPLEMENT

Full-time students that are children of eligible NY State veterans. Eligible veterans must meet specific criteria for eligibility. For further information in regard to eligibility contact

\$450 per year regardless of income or tuition costs for up to four years. In combination with a TAP award may not exceed tuition.

New York State Higher Educational Services Corp. (HESC) 99 Washington Avenue Albany, N.Y. 12255. <http://www.HESC.COM>



HESC.

### **AID FOR PART-TIME STUDY (APTS)**

Part-time students and residents of New York State, must enroll for at least 3 but less than 12 credit hours. Income and academic guidelines involved.

Amount of tuition or less depending on need and availability of funds.

Forms and further information available in BCC Financial Aid Office. Applications must be submitted no later than the end of the tenth week of classes.

### **EDUCATIONAL OPPORTUNITY PROGRAM**

Full-time students with financial need and less than an 82 high school average. Family income must be below a specific level.

Varies according to individual need. Average of \$450 per student per academic year.

Application available in the Educational Opportunity Program Office at BCC.

### **FEDERAL PELL GRANT PROGRAM**

Accepted and enrolled in at least one class as an undergraduate student with demonstrated financial need.

From \$304 to \$5,350 annually.

College must receive an electronic Institutional Student Information Record (ISIR) from the Federal processor. Application available on-line at <http://www.fafsa.ed.gov> after January 1.

### **ACADEMIC COMPETITIVENESS GRANT 1 (ACG1)**

For full-time or half-time students who have graduated from a rigorous high school program after January 1, 2006. Must be Federal Pell Grant eligible.

Up to maximum of \$750 depending on enrollment status and prior award receipt, during freshman year of study.

College must receive an electronic Institutional Student Information Record (ISIR) from the Federal processor.

### **ACADEMIC COMPETITIVENESS GRANT 2 (ACG2)**

For full-time or half-time students who have graduated from a rigorous high school program after January 1, 2005. Must have 3.0 GPA at time that 30 credit hours have been earned. Must be Federal Pell Grant eligible.

Up to maximum of \$1300 depending on enrollment status and prior award receipt during sophomore year of study.

College must receive an electronic Institutional Student Information Record (ISIR) from the Federal processor.



## FEDERAL SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANT (FSEOG)

|  |   |  |
|--|---|--|
| For full-time or half-time students with demonstrated high financial need. Must also be Federal Pell Grant eligible. | Up to \$4,000 depending upon need and cost of college expenses. | College must receive an electronic Institutional Student Information Record (ISIR) from the Federal processor. |
|--|---|--|

## BCC FOUNDATION GRANTS

|  |                                      |  |
|--|--------------------------------------|--|
| Full-time or half-time students on a first-come, first-served basis. | Varies according to individual need. | College must receive an electronic Institutional Student Information Record (ISIR) from the Federal processor. |
|--|--------------------------------------|--|

## NYS AID FOR NATIVE AMERICANS

|                                   |  |   |
|-----------------------------------|--|---|
| Full-time and half-time students. | Varies according to individual need and type of award. | Must file annually with the Bureau of Indian Affairs. Applications are available from the US Department of Interior, Bureau of Indian Affairs, Federal Building Room 523, 100 South Clinton Street, Syracuse, NY. |
|-----------------------------------|--|---|

## Loans

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| Eligibility | Amount Per Year | Where/ How To Apply |
|-------------|-----------------|---------------------|
|-------------|-----------------|---------------------|

### FEDERAL STAFFORD STUDENT LOAN

|  |  |   |
|--|--|---|
| For full-time or half-time students. Student borrows on own signature from a participating bank. Student must show financial need. | Maximum of \$3,500 for the first, \$4,500 for the second, and \$5,500 for the third and fourth years of an undergraduate program; not to exceed a cumulative total of \$31,000 (of which no more than \$23,000 can be subsidized) for dependent students or \$57,500 for independent students. | BCC Federal Stafford Loan worksheets can be obtained at the Financial Aid Office. Applications must be submitted to the Financial Aid Office for processing along with an electronic Institutional Student Information Record (ISIR). |
|--|--|---|

### FEDERAL PARENT LOAN FOR UNDERGRADUATE STUDENTS (FPLUS)

|   |   |   |
|---|---|---|
| Loan program for parents of dependent undergraduate students enrolled at least half-time. | No annual or cumulative limits. Loan amounts may not exceed the student's cost of attendance minus other estimated financial aid. Parent borrower will be subject to a credit history review and may be determined ineligible due to an adverse credit history. | BCC Federal PLUS Loan worksheets can be obtained at the Financial Aid Office. Applications must be submitted to the Financial Aid Office for processing along with an electronic Institutional Student Information Record (ISIR). |
|---|---|---|

## UNSUBSIDIZED FEDERAL STAFFORD STUDENT LOAN

For full-time or half-time students. Student borrows on own signature from a participating bank. No financial need required. Student must make interest payments or capitalize interest payments while attending school.

Same as Federal Stafford Student Loan program. Combination of subsidized and unsubsidized Federal Stafford Student Loans may not exceed annual and cumulative limits for loans under the Federal Stafford Loan program. Independent students may borrow an additional \$6,000, and dependent students an additional \$2,000 above the Stafford Loan limits per year based on cost of attendance minus other aid.

Same as Federal Stafford Student Loan program.

## Employment

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**FEDERAL WORK-STUDY** employment is available for full-time or half-time students with financial need. It is awarded on a first-come, first-served basis.

Students may work up to 20 hours a week when classes are in session or up to 37-1/2 hours a week during vacation. Pay is minimum wage. Forms and additional information are available in BCC Financial Aid Office.

## Financial Aid Time Frame

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Students may receive Federal financial aid for only up to 150% of the time/credits necessary to graduate from their program of study (i.e. if the degree requirement equals 60 credit hours, the student may attempt up to 90 credit hours with funding). Beginning with the first semester of matriculation into a degree granting program of study, all college level credit hours (i.e. courses designated at the 100 level or higher) that a student registers for (excluding those dropped during the first week of classes or those never attended) are counted toward this time frame. Credit hours that a student attempts at their own expense also count toward the 150% time limit. At any time that it is determined that a student can not complete their degree within the 150% time frame, they become ineligible to receive any form of Federal financial aid.

Changes in major do not set back a student's maximum allowable time frame. Rather, a change in major program may impact the total number of credits allowable in either a positive or a negative direction, based on the new degree requirement.

Remedial courses (i.e. those designated below the 100 level) and English as a Second Language (ESL) courses that a student attempts do not count toward the 150% time frame. Students are allowed to attempt up to 30 credit hours of remedial course work and 30 credit hours of ESL course work with Federal funding. Once a student has attempted up to this limit, they are no longer eligible to receive any form of Federal financial aid for additional remedial or ESL course work attempted.

New York State has set up a separate policy in regard to time frames for TAP recipients. Students attending two-year colleges in the State of NY (with the exception of those students enrolled in the Educational Opportunity Program [EOP]) may only receive up to three years of TAP payments.

# Academic Information

## Section 5





## Academic Information

### Degree and General Requirements

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1. Successful completion of all courses for the degree as contained in this Catalog. This requirement includes earning a high school diploma or a GED.
2. A 2.00 cumulative GRADE POINT AVERAGE in those courses applicable to the degree.
3. Filing of an Application for Graduation in the final semester.
4. Recommendation of the faculty that the degree requirements have been met by the student.
5. Satisfaction of all obligations to the College.
6. Specific curriculum requirements.
7. Satisfaction of General Education requirements
8. Candidates for graduation must have on file a copy of final transcript from high school showing graduation or proof of a GED diploma to receive a BCC degree or certificate.

Satisfaction of the equivalent of a semester's course of study (12 credits) at BCC. This is the College's *residency requirement* and is most important for transfer students.

### The Associate in Applied Science Degree (AAS)

This degree is awarded to graduates of curricula in these fields of study:

Accounting  
Business Information Management  
Chemical Dependency Counseling  
Civil Engineering Technology  
Computer Information Systems  
Computer Technology  
Criminal Justice-Police  
Dental Hygiene  
Early Childhood  
Electrical Engineering Technology  
Emergency Medical Technology-Paramedic  
Financial Services  
Fire Protection Technology  
Health Information Technology  
Hotel/Restaurant Management  
Individual Studies  
Industrial Technology  
Industrial Technology: Quality Assurance  
Marketing/Management/Sales  
Mechanical Engineering Technology  
Medical Assistant  
Medical Laboratory Technology  
Nursing  
Office Administration  
Paralegal  
Physical Therapist Assistant

## Curriculum Requirements

- a. The minimum number of credits in a student's major field as determined by each academic department. These are courses intrinsic to, and required by, the various curricula.
- b. A minimum of 20 credits in Liberal Arts and Sciences courses will include:
  1. Social Sciences: a minimum of 6 credits including 3 in designated citizenship-related courses
  2. Natural Sciences and/or Mathematics: a minimum of 6 credits
  3. Humanities: a minimum of 6 credits in designated English courses
  4. Two Writing Emphasis W courses
  5. Satisfaction of General Education requirements.
- c. Satisfactory completion of all courses in a curriculum, or as approved, in a department.
- d. Summer clinical experience required for graduation in curricula noted.

## The Associate in Arts Degree (AA)

This degree is awarded to students who complete the following requirements:

1. English: 9 credits, including ENG 110, 111, and 220.
2. History: a minimum of 9 credits.
3. Foreign Language: high school exemption or Beginning II.
4. Humanities: 3 credits in Literature, Philosophy, or Humanities.
5. Mathematics: based on high school preparation, SUNY General Education requirement, and BCC requirement.
6. Natural and Physical Sciences: a minimum of 8 credits.
7. Social Sciences: a minimum of 6 credits including 3 in designated citizenship courses.
8. Electives: 8-24 credits. A maximum of 15 credits may be taken outside the offerings in Liberal Arts and Sciences.
9. Completion of 2 Writing Emphasis W courses.
10. Physical Education: 1 cardiovascular credit.
11. Arts: 3 credits in ART, MUSIC, THEATER
12. Satisfaction of General Education requirements.

## The Associate in Science Degree (AS)

This degree is awarded to graduates in these fields of study:

Business Administration  
Business Administration:  
International Business  
Communications and Media Arts  
Computer Science  
Criminal Justice - Corrections  
Engineering Science  
Homeland Security  
Human Services

Individual Studies  
 Liberal Arts and Sciences: Science Option  
 Liberal Arts: General Studies  
 Management  
 Music

## AS Degree Requirements:

- At least 30 credits in the Liberal Arts and Sciences.
- Physical Education - 1 cardiovascular credit PED for Business Administration, Computer Science, Engineering Science, and Liberal Arts and Human Services students.
- Completion of 2 Writing Emphasis W courses.
- Satisfaction of General Education requirements.

## State University of New York General Education Requirement <sup>^top</sup>

**Requirement:** The State University of New York's General Education Requirement applies to all State-operated institutions offering undergraduate degrees. It requires baccalaureate degree candidates, as a condition of graduation, to complete a General Education program of no fewer than 30 credit hours specifically designed to achieve the student learning outcomes in ten knowledge and skill areas and two competencies. The SUNY General Education Requirement became effective in Fall 2000 for entering students due to graduate with a SUNY Bachelor's degree in Spring 2004. (State University of New York Board of Trustees, Resolution 98-24, December 1998)

**Community College Participation:** Community colleges were instructed to develop plans to provide, at a minimum, 21 credit hours covering seven of the ten General Education knowledge and skill areas for the A.A. and A.S. students who are planning to transfer to SUNY baccalaureate-granting colleges. BCC's plan and courses (shown below) have received SUNY approval. Participation in the SUNY-wide General Education program complements and augments BCC's long-standing General Education goals.

| Knowledge/Skill Areas                | Learning Outcomes Students will demonstrate:   | BCC Courses Approved   |
|--------------------------------------|--|--|
| <b>Mathematics</b><br>3 credits      | Competence in the following quantitative reasoning skills: <ul style="list-style-type: none"> <li>Arithmetic</li> <li>Algebra</li> <li>Geometry</li> <li>Data analysis</li> <li>Quantitative reasoning.</li> </ul>   | BUS 115, MAT 115 and MAT 116 ( <b>in this order</b> ), MAT 124, 136, 146, 156, 160, 181, 182, 224. For Elem. Education transfers only: MAT 119 and MAT 120 ( <b>in this order</b> ).     |
| <b>Natural Sciences</b><br>3 credits | <ul style="list-style-type: none"> <li>Understanding of the methods scientists use to explore natural phenomena, including observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence, and employment of</li> </ul> | BIO 111, 112, 115, 131, 132, 150, 200. CHM 120, 121, 123, 133, 141, 142, 145, 146, 245, 246. MLT 205, 208. PHS 111, 112, 113, 114, 115, 116, 117, 125. PHY 118, 160, 161, 162, 181, 182. |

|  |   |   |
|--|---|---|
|  | <ul style="list-style-type: none"> <li>mathematical analysis.</li> <li>Application of scientific data, concepts, and models in one of the natural sciences.</li> </ul>  |   |
| <b>Social/Behavioral Sciences</b><br>3 credits | <ul style="list-style-type: none"> <li>Understanding of the methods social scientists use to explore social phenomena, including observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence, and employment of mathematical and interpretive analysis</li> <li>Knowledge of major concepts, models, and issues of at least one discipline in the social sciences.</li> </ul> | ANT 111. BUS 116. CRT 245. ECO 110, 111. GEO 120. POS 201, 204. PSY 110. SOC 110, 111. SOS 101, 111, 116, 120, 155.   |
| <b>United States History</b><br>3 credits      | <ul style="list-style-type: none"> <li>Knowledge of a basic narrative of American history: political, economic, social, and cultural, including knowledge of unity and diversity in American society.</li> <li>Knowledge of common institutions in American society and how they have affected different groups.</li> <li>Understanding of America's evolving relationship with the rest of the world.</li> </ul>               | HIS 130, 131. 85> grade on Regents US History exam following courses can be elected: HIS 175, 188, 194.*  |
| <b>Western Civilization</b><br>3 credits       | <ul style="list-style-type: none"> <li>Knowledge of the development of the distinctive features of the history, institutions, economy, society, culture, etc., of Western civilization</li> <li>Understanding of the relationship between the development of Western civilization and that of other regions of the world.</li> </ul>  | HIS 100, HIS 116 and HIS 117, HIS 155*, 156. HUM 101, 102.  |
| <b>Other World Civilizations</b><br>3 credits  | <ul style="list-style-type: none"> <li>Knowledge of a broad outline of world history, or</li> <li>Knowledge of the distinctive features of the history, institutions, economy, society, culture, etc., of one non-Western civilization.</li> </ul>  | HIS 116 and HIS 117, HIS 141, 163, 164.   |
| <b>Humanities</b><br>3 credits                 | <ul style="list-style-type: none"> <li>Knowledge of the conventions and methods of at least one of the humanities in addition to those encompassed by other knowledge areas required by the General Education program.</li> </ul>   | ART 102, 103, 104, 108, 109, 110, 146. COM 145, 200. ENG 220. HUM 101, 102, 103, 104. LIT (ALL) 200, 210, 211, 214, 215, 220, 225, 230, 233, 235, 240, 250, 253, 260, 263, 264, 267, 270, 272, 273, 274, 276, 277, 280, 285, 290, 295, 297. MUS |



|   |   |   |
|---|---|---|
|   |   | 101*, 108*, 109, 111, 112, 114. PHI 102, 104, 201, 206. SPA 204, 207. THR 102, 221, 222.  |
| <b>The Arts</b><br>3 credits            | <ul style="list-style-type: none"> <li>Understanding of at least one principal form of artistic expression and the creative process inherent therein.</li> </ul>  | ART 102, 103, 104, 105, 106, 108, 109, 110, 111, 112, 115, 116, 125, 130, 140. COM 145, 200, 205. ENG 170, 175. MUS 101, 105, 106, 108, 109*, 111, 112, 114, 180, 188, 200. PED 135, 137. THR 101, 102, 109, 110, 111, 112, 114, 117, 151, 152, 161, 165, 175, 221. |
| <b>Foreign Language</b><br>3-4 credits  | <ul style="list-style-type: none"> <li>Basic proficiency in the understanding and use of a foreign language.</li> <li>Knowledge of the distinctive features of culture(s) associated with the language they are studying.</li> </ul>  | FRE 101. GER 101. ITA 101. SPA 101. Most BCC AA/AS students must complete 102 level; most BA/BS students must complete 201 level. 201 level strongly recommended.   |
| <b>Basic Communication</b><br>3 credits | <p>Students will:</p> <ul style="list-style-type: none"> <li>produce coherent texts within common college-level written forms;</li> <li>demonstrate the ability to revise and improve such texts;</li> <li>research a topic, develop an argument, and organize supporting details;</li> <li>develop proficiency in oral discourse; and</li> <li>evaluate an oral presentation according to established criteria.</li> </ul> | ENG 107, 108, 110, 111, 150.  |
| <b>Critical Thinking (Reasoning)</b>    | <p>Students will:</p> <ul style="list-style-type: none"> <li>identify, analyze, and evaluate arguments as they occur in their own or others' work; and</li> <li>develop well-reasoned arguments.</li> </ul>   | Courses across the curriculum incorporate these learning goals; ENG 110, 111, 220 explicitly target these learning outcomes.  |
| <b>Information Management</b>           | <p>Students will:</p> <ul style="list-style-type: none"> <li>perform the basic operations of personal computer use;</li> <li>understand and use basic research techniques; and</li> <li>locate, evaluate, and synthesize information from a variety of sources.</li> </ul>  | Courses across the curriculum incorporate these learning goals; ENG 110, 111 explicitly target these learning outcomes.   |

Students who do not complete the 30 credits required by SUNY General Education at BCC will have to complete the remainder while attending a four-year SUNY institution.

\*Pending.

To view the current list of approved course offerings go to:

[www.sysadm.suny.edu/provost/generaleducation/CourseList/BroomeGERCourses.pdf](http://www.sysadm.suny.edu/provost/generaleducation/CourseList/BroomeGERCourses.pdf)

## General Education at BCC

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Broome Community College's General Education program strives to ensure that **each graduate will:**

1. **communicate effectively orally and in writing and (SUNY#10) acquire information management skills. (SUNY #12)**
  - Students take ENG 110, and/or 111, and 220, and two Writing Emphasis W courses; information management skills are taught in a variety of courses across the curriculum.
2. **think clearly and critically. (SUNY #11)**
  - Students will achieve competence in critical thinking in courses across the curriculum.
3. **become sensitive to the ethical dilemmas of daily life and experienced in moral reasoning, discourse, and (SUNY #11) judgment.**
  - Courses in various curricula and programs will integrate moral reasoning and argument; Social Science/Civic Education courses explicitly include moral reasoning in student learning outcomes.
4. **exercise one's right and obligation to be informed about and participate competently in civic affairs. (SUNY #3 and #4)**
  - Students take designated History/ Social Science courses that address this goal.
5. **acquire a global outlook and appreciate human and cultural diversity. (SUNY #5 and #6)**
  - In addition to study of non-Western cultures required in many transfer programs, global and cross-cultural inquiry is integral to Social Science courses.
6. **gain facility in quantitative analysis, and acquire knowledge of scientific and technological concepts, (SUNY #1) procedures, achievements, and concerns. (SUNY #2)**
7. **maintain good health and fitness.**
8. **make connections through the extra curriculum.**

## Writing Emphasis Courses

What is a W course? A W course is a Writing Emphasis course, a course in a discipline other than English (ENG courses are not W courses) in which students use writing to think and to learn as well as to communicate. Writing about the subject matter is integral to the course.

Many courses have been designated Writing Emphasis or W courses. A W course will always have a W as part of the course number. For instance, MAT 120W01 is a Writing Emphasis section of the course Mathematics for Elementary Education II.

A student must successfully complete two (2) W courses to fulfill degree requirements. The W courses follow ENG 110 College Writing I and precede ENG 220 Communicating About Ideas and Values.

Students should consult the master schedule and speak with an advisor before choosing an appropriate W course. The complete list of W courses for each semester can be found on the Writing Center website.

## Writing Emphasis Module

The Writing Emphasis or W Module, attached to a course section not designated, at least in a particular semester, as a Writing Emphasis or W course section, is arranged collaboratively by the instructor of the course section and the student, who must petition for approval of the Module by the Writing Initiatives Committee in conjunction with the General Education Steering Committee. The Writing Emphasis or W Module is intended for students, usually in their final semester at the College, who are preparing to graduate but for a variety of reasons lack the two required Writing Emphasis or W courses. Like W courses, W modules encourage students to use writing to think and to learn as well as to communicate. The Module carries no additional academic credit.

The Writing Emphasis or W Module provision may be important to transfer students who have completed their General Education requirements at other colleges or universities but who lack the Writing Emphasis or W courses mandated for graduation by Broome Community College. In any case, the Module is not intended to act as a substitute for W courses offered deliberately by academic departments or programs; students must make every effort to complete successfully those specifically conceived courses.

Students petitioning for a Writing Emphasis or W Module must prove that they have been unable to take routinely scheduled Writing Emphasis or W course sections. Under normal circumstances, they are expected to petition for the Module no later than the fifth week of classes. No petitions are accepted after the Withdrawal deadline.

## Waiver of Degree Requirements

Students seeking waivers of degree requirements should consult their program chairpersons.

## Dual Degree Award

Students seeking two degrees from the College should consult their chairpersons and/or deans to determine their eligibility under State University of New York guidelines.

## Graduation

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Broome Community College will conduct one formal graduation ceremony each year in the spring. All candidates for degrees may participate in the ceremony. A candidate is a student who will complete his/her degree requirements at the conclusion of the fall, spring, or summer semester. Candidates must have filed their "Application for Graduation" and have been recommended as candidates by the chairperson of their academic department. Students who complete their degree requirements at the end of the fall semester will be invited to attend the next graduation ceremony.

Candidates for graduation must have on file in the Registrar's Office a copy of final high school transcript or proof of a GED diploma to receive a BCC degree or certificate.

## Declaration of Graduation Candidacy

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Students intending to complete all degree requirements within a given semester are required to declare their intention to do so by filing an "Application for Graduation" with the Office of the Registrar.



Applications for Graduation should be filed by:  
Spring Semester - March 15  
Summer Semester - March 15  
Fall Semester - October 15

Students filing after these dates will be considered as graduates for the semester but may not receive their diplomas in a timely fashion or have their names indicated in the Commencement Booklet (Spring semester). No application for candidacy will be accepted after the last day of classes of the term being applied for. Students applying after that date will be considered graduates of the following semester, or of the semester/year in which they file a candidacy form.

## Graduation with Honors

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Students who graduate with a cumulative grade point average of 3.80 or better will receive the distinction of graduating with "High Honors" and those who graduate with a cumulative grade point average between 3.50 and 3.79 inclusive will graduate with "Honors."

## Certificate Programs

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Broome Community College also has certificate programs which are less than two years in length, have more specific objectives than the associate degree offerings, and consist of about one year of college credit. Some are designed to prepare students for jobs that require specialized higher education, but not necessarily a college degree; some provide students with an opportunity to upgrade their academic backgrounds or expand their qualifications for a particular field of study; and some offer college credits and additional training for people already working in the field.

Most of the certificate offerings carry college credits, and can lead a person into some of Broome Community College's degree-granting curriculums. They can be taken on a full-time or part-time basis, and most of them are offered in the evening although some are available through day classes only. No specific high school courses are required for enrollment.

## Certificate Programs

1. Business Skills
2. Desktop Publishing
3. Early Childhood
4. Entrepreneurship
5. Human Services
6. Industrial Technology
7. Industrial Technology-Quality Assurance
8. Liberal Arts
9. Medical Transcription
10. Office Technologies
11. Paralegal
12. Phlebotomy
13. Website Development and Management

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# Standards for Academic Progress

## Minimum Grade Point Average

In order to be in good academic standing and to be making academic progress toward a degree or certificate, a student must meet a minimum cumulative grade point average and successfully accumulate credits according to the following standards:

### 1) Grade Point Average

| Credits Attempted | Minimum Cumulative GPA |
|-------------------|------------------------|
|-------------------|------------------------|

|           |      |
|-----------|------|
| 12-20     | 1.50 |
| 21-40     | 1.75 |
| 41-upward | 2.00 |

### 2) Successful Accumulation of Credits

Students must successfully pass ("D" grade or better) a total number of credits according to the following standard:

| Credits Attempted | Credits Earned |
|-------------------|----------------|
|-------------------|----------------|

|     |    |
|-----|----|
| 20  | 12 |
| 40  | 24 |
| 60  | 36 |
| 80  | 48 |
| 100 | 60 |
| 120 | 72 |
| 140 | 84 |
| 160 | 96 |

"Credits attempted" include all credit hours for which the student was registered after the first week of a semester, regardless of later dropping or withdrawal from course. "Credits earned" excludes those credit hours associated with grades of "F", "W", or "I" (Incomplete).

By the time a student has attempted 20 credits, he/she must have successfully earned 12 credits. Likewise, 40 credits trigger the 24 credit minimum requirement. Any course in which a student is enrolled past the first week of classes is considered an attempted hour. Developmental courses do not

give earned credit toward a degree at the college, but they are equivalent to the appropriate number of earned credits for academic standing.

## **Probation**

Students' records will be reviewed at the end of each semester by the Registrar. Students who have not met the minimum cumulative standards will be placed on probation. During this probationary time, the student is expected to remain in contact with his/her advisor, department chairperson, or division dean. Probationary standards may be required, such as limitation on total credit hours taken in the probationary semester, or specified courses, or regular meetings.

## **Continued Probation**

Once on probation, a student must achieve a minimum *semester* GPA of 2.00, and must complete/earn at least 50% of his/her attempted credit hours for the semester to avoid dismissal. Students who meet these minimum probationary standards but still do not meet the minimum cumulative standards for academic progress will continue on probation. Students who meet the minimum cumulative standards will continue in good standing.

## **Dismissal**

If a student does not meet the minimum probationary standards at the end of the probationary semester, the student will be dismissed from the College. Notification of dismissal will be sent by the College Registrar. Students who meet the minimum cumulative standards will continue in good standing.

## **Attendance After Dismissal**

To continue in attendance, a dismissed student must submit a Petition for Academic Continuance to his/her Divisional Dean or Dean's designee. Petitions can be obtained from the Dean's Office. Based on a review of the student's academic record and discussions with the student, the Dean/designee will determine the student's status as follows:

### **Petition Dismissal:**

1. In rare cases clearly documented "extenuating circumstances" directly contributing to the student's academic failure may be considered by the Divisional Dean/designee. A student may receive only one such petition for "extenuating circumstances" during his/her enrollment at the College.

### **Part-Time Enrollment:**

2. With the dean's approval, a student may continue in the next semester on a part-time basis. The intent of allowing such part-time enrollment in an approved course of study is to afford the student the opportunity to complete a successful semester. Students permitted to attend on a part-time basis who successfully achieve "C" grades or better in two or more courses

approved by the dean will be allowed to return to full-time status in the following semester.

In either case, the student will continue on probation for the following semester and will be expected to meet the minimum probationary standards to avoid dismissal. A dean's waiver does not guarantee continuity of financial aid.

## **Denial of Petition/Leave of Absence and Readmission:**

3. The Divisional Dean/designee may deny the student's petition. Following absence from the college for a semester or more, students must reapply for admission and petition the dean for continuance of study.

## **Academic Grievance Procedure**

Information about the academic grievance procedure is available in the Student Handbook and through the Office of the Vice President for Academic Affairs.

## **Academic Standards for Clinical Education**

Academic Standards for Clinical Education in the Health Sciences Division programs require dismissal from the program of students who fail to meet established academic objectives for the physical safety, psychological safety, and confidentiality of patients.

## **Dismissal/Readmittance for Degree Programs**

Students enrolled in Dental Hygiene, Health Information Technology, Medical Assistant, Clinical Laboratory Technology, Medical Laboratory Technology, Nursing, Physical Therapist Assistant, and Radiologic Technology must satisfactorily complete each scheduled, successive clinical assignment, in order to progress in the program. Students are subject to the campus Policies and Standards for Academic Progress, as well as those included in the Program Policy and Procedures Manuals, specific to each program. Students dismissed from these programs under program policies lose the curriculum designator and will no longer be advised by the departmental faculty or chairperson. They are advised to see an academic advisor, if they wish to continue taking courses within another curriculum.

Students dismissed from one of these programs may apply for readmission and will be considered eligible for the competitive admissions process. Students dismissed more than once may NOT reapply for the same program. Students who interrupt their course of study may be readmitted with advanced standing in program courses, on a space available basis, only with permission of the Department Chairperson.

## Grading Information

This grading policy was adopted by the College commencing with the Fall 1992 semester.

| Grades | Quality Points per Credit Hours | Explanation   |
|--------|---------------------------------|---|
| A      | 4.0                             | Superior Achievement  |
| A-     | 3.7                             |   |
| B+     | 3.3                             |   |
| B      | 3.0                             | Commendable Achievement   |
| B-     | 2.7                             |   |
| C+     | 2.3                             |   |
| C      | 2.0                             | Satisfactory Achievement  |
| C-     | 1.7                             |   |
| D      | 1.0                             | Minimal Achievement   |
| F      | 0.0                             | Unsatisfactory or withdrawal after 10th week  |
| S      | -                               | Satisfactory  |
| U      | -                               | Unsatisfactory or withdrawal after 10th week  |
| W      | -                               | Withdrawn from a course between the 3rd and 10th week (See "W" Grade below)                 |
| I      | -                               | Incomplete due to special circumstances (See "I" grade conditions)                          |
| IP     | -                               | "In Progress" for courses in which student is permitted one additional semester to complete |
| AU     | -                               | Audit   |

## Grade Point Average

Each grade carries a specified number of honor points, 4.0 for an A, 3.7 for an A-, 3.3 for a B+ as described in the section on Grading Information. To determine a student's grade point average, multiply the number of honor points earned, according to the letter grade, by the number of credits for the course. Add these together and divide the sum by the total number of credits.



A grade point average (GPA) is calculated for each semester the student attends, and a cumulative summary is also shown on the student's academic transcript.

For purposes of graduation eligibility, only those courses required for the degree will be used to determine if the criteria have been met for a 2.0 in courses applicable to the degree. This calculation will reflect the Program grade point average in the student's field of study and will be fixed as of graduation. Any courses taken after that will not change the graduation GPA and will not be entered into the previous GPA in any way. The cumulative GPA, however, will reflect all courses taken by the student unless a course has been repeated.

## **"S" and "U" Grades**

The S and U grade will apply only to specific courses determined by the appropriate departments and approved by the Vice-President for Academic Affairs. Such courses will not affect the Grade Point Average (GPA).

## **"W" Grade**

It is the student's responsibility to initiate action to receive a grade of W within the 4th and 10th weeks inclusive. Students cannot receive a "W" grade after the 10th week.

"W" or "F" grade periods for courses which meet for less than a full semester will be determined by the Registrar's office.

## **"I" Incomplete Grade**

An "I" or incomplete grade signifies that coursework cannot be completed during the term due to extenuating circumstances.

The "I" or incomplete grade shall be assigned by instructors only in cases where they have agreed to grant students extensions to complete coursework and a contract has been arranged between the student and instructor.

To petition for an "I" grade, the student must contact the instructor prior to the last class to arrange for the completion of the unfinished work. The instructor will file with the Office of the Registrar an "Incomplete Contract" form, outlining the provisions to complete the "I" grade, including *an agreed upon time limit that shall not exceed the last day of the next major semester*. The instructor may grant an extension for an additional semester by completing another "I" Contract.

After the student has completed the work, the instructor will submit a "Notification of Grade Change" form to the Registrar for removal of the "I" grade. If the student does not meet the time limit, the instructor shall direct the Registrar to record the appropriate grade.

When the Registrar is not notified by the instructor of a grade change, the Registrar will convert the "I" grades to "F" or "U" at the end of the next semester.

An instructor submitting a grade change for an "I" grade which has been converted to an "F" must follow the normal grade change provisions.

An "I" grade will be treated as an "F" grade in the calculation of academic progress. If a student is academically dismissed during the semester in which an "I" grade was granted, subsequent passing of the course will not rescind the academic dismissal.

## **"IP" grades**

Some Developmental Courses allow the assignment of an "IP" or In-Progress grade when the course may require more than one semester to repeat. The student must re-register for the course. When the course is completed, the student will receive the grade assigned (generally an "S" or "U" in the last semester and the prior "IP" grade will be retained).

If the "IP" is not completed (the student does not re-register or leaves the institution), the former "IP" grade will be changed to a "U" at the beginning of the first semester (Spring or Fall only) in which the student has not re-registered for the course.

A student can receive the grade of "IP" only once for a course.

## **Audit**

The term "Audit" designates a status, not a grade. The letters AU will appear next to the course name on the transcript.

## **Repeating Courses**

Permission of a matriculated student's department chairperson or divisional advisor is required in order to:

- a. repeat a failed course more than once.
- b. repeat a course in which a student has received a passing grade.

If a course is repeated, the higher grade will be included in the cumulative grade point average. If a required course is failed, the department or the dean may allow the student to substitute an equivalent or similar course rather than repeat the failed course. In such cases, the higher grade will be included in the cumulative grade point average. All grades will appear on the student's transcript.

A course in which a grade of W was previously received is not considered a repeat.

Students repeating a course they have already passed (a "D" grade or better) may not be able to use that course as part of their calculation for full-time status for certification under the New York State Tuition Assistance Program (TAP) and should be advised to check with the Office of the Registrar before registering for the repeat course.

## **Grades Appeals**

Broome Community College has established a procedure to provide students an opportunity to appeal grades in any particular course(s) or academic dismissal. Copies of the Student Academic Appeal procedure are available in the offices of the Divisional Deans. The policy also appears in the Student Handbook.

## President's/Dean's List

Full-time students who have a semester grade point average 3.80 or better will be named to the President's List. Such students must successfully complete a minimum of 12 credit hours and have no "I" grade for that semester. *Courses which use the S or U or credit equivalent grade may not be among the 12 hours.*

Full-time students who have a semester grade point average between 3.50 and 3.79 inclusive will be named to the Dean's List. Such students must successfully complete a minimum of 12 credit hours and have no "I" grade for that semester. *Courses which use the S or U or credit equivalent grade may not be among the 12 hours.*

Part-time students can earn a place on the President's or Dean's List by having the appropriate cumulative grade point average for their most recent semesters that include at least 12 credit hours and have no "I" grades for those semesters. *Courses which use the S or U credit equivalent grade may not be among the 12 hours.* Part-time students should contact the Registrar's Office if they have the appropriate grades.

## Registration and Student Status

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### Late Registration:

Late registration for credit courses may be permitted during the first week of classes depending on program and course availability. However, no students will be admitted to any class after the 2nd week of that class.

A late initial registration fee will be charged during the week in which late registration is permitted.

Exceptions to this regulation may be made by a Division Dean.

### Dropping a Course:

For a student to drop a course, an official "Drop/ Add" form needs to be signed by the Department Chairperson or an authorized College Advisor, and filed with the Registrar.

Telling the instructor is NOT sufficient notice of withdrawal.

One exception to the above rule is schedule changes necessitated by adding or dropping sections. In these instances, the process may be initiated by the Department or the Registrar.

The College reserves the right to administratively withdraw any student from any course for non-attendance. This may affect a student's academic standing since such dropped courses will be considered credits attempted (see Attendance Regulations on following page for further information).

Full semester courses may be officially dropped by students without receiving a "W" only within the first three weeks of class. Courses dropped within the fourth and tenth weeks result in a "W" for the dropped course. "W" or "F" grade periods for courses which meet less than full semester will be determined by the Registrar's Office.



## **Adding a Course:**

Once a class begins, students may only add courses or change sections with the approval of the Department Chair or designee of the course.

After one week of classes, the addition of courses or changing of sections requires the approval of the divisional dean or his/her designee. The primary exceptions are courses where, upon advisement, a student may move to a lower level course.

In all cases, students must file the "Drop/Add" forms in order to become officially registered in additional courses.

Students who attend classes in which their names do not appear on the class list will be referred to the Registrar. Students are required to then present an official approved "DROP/ADD" form to the instructor.

## **Withdrawal from Full-Time Studies:**

Students who decide to withdraw from the College must complete the proper termination forms available in Room 210, Student Services Building. Failure to officially withdraw may cause the individual to lose any possible refund of tuition. In addition, the student may receive an "F" grade for all courses.

## **Withdrawal from the College**

Broome Community College has committed to a philosophy of providing whatever assistance is necessary to aid the student in completing his/her academic goals. Students are strongly encouraged to seek academic and personal counseling prior to any withdrawal.

Any student who decides to withdraw from the College must obtain a signed drop form from their department and complete a withdrawal form. The withdrawal form is available in Room 210 of the Student Services Building. Failure to comply may cause the individual to lose any possible refund fees or may negatively impact future financial aid resources.

## **Medical Withdrawal:**

Verified medical or psychological reasons directly preventing the student from completing classes may be considered by the Divisional Dean for medical withdrawal. A student must begin the process by completing a drop form and obtaining an application for medical withdrawal at the Registrar's Office.

A medical withdrawal, if approved, will be noted on the student transcript. Medical withdrawal has no effect on the student's refund eligibility. (See BCC Refund regulations)

A medical withdrawal for a prior semester must be completed by the end of the semester in which the student returns to the College.

Granting of a Medical Withdrawal for a semester does not guarantee an override of academic dismissal status or financial aid eligibility. Students will need to file a petition for academic continuance.



## Fresh Start

Any student who has been absent from BCC for 2 years (24 months) and was not in good academic standing can receive a Fresh Start. The following conditions apply to the awarding of Fresh Start:

1. The Fresh Start will go into effect after the eligible student has completed a minimum of six or more credit hours of coursework in the semester they return with a grade of "C" or better in each course attempted. The following notation will appear on the transcript at the end of the semester in which the Fresh Start goes into effect: "Student Granted Fresh Start".
2. The Fresh Start Grade Point Average (GPA) will include all grades earned at the end of the first semester back at BCC. No grade (A through F) awarded prior to readmittance will be included in the new cumulative GPA.
3. All prior grades and coursework will remain on the record. However, only prior credits from courses in which the student received a grade of "C" or better can be applied towards the degree. Credits from courses in with a "C-" or "D" cannot be applied toward the degree.
4. The Fresh Start option, once granted, cannot be rescinded; can only be used once; and cannot be applied to a previously granted degree.
5. Student requesting Fresh Start is not eligible for financial aid until condition #1 above is completed. Student should also consult the Financial Aid Office for any other conditions.

To initiate a Fresh Start, students may obtain a request from the Registrar's office, their Dean's office, or Room 210 of the Student Services Building.

## Changing Curriculum

Any student wishing to change curriculum must request a "Change of Curriculum" form from the Registrar's Office. It must have the approval of the new division dean/designee or department chairperson and the signature of the current division dean/designee or department chairperson.

The Change of Curriculum Policy is administered under the following criteria:

1. All previous courses and grades will remain on the permanent record.
2. The academic standing of the student at the time of the Change of Curriculum will be maintained. For example, a student on probation at the time he or she applied for the change will remain on probation. Students who have been dismissed must file a petition with the dean of the division which sponsors the new curriculum.
3. The student will be bound by the graduation requirements of the current catalog at the time of the curriculum change.

## Semester Credit Overload

During the Fall and Spring semesters, no student may enroll (register) for more than 20.5 credits without approval from their divisional dean.

During the Summer semester, no student may register for more than 6.0 credits in any one summer term or take more than 12.0 credits for all summer terms without permission from their divisional dean.

## Length of Curriculum

Most associate degree programs are designed to be completed in two years. The college year is divided into two semesters of 15 weeks each plus an evaluation week. Some students may choose or be required to take more than four semesters to earn their degrees. Radiologic Technology students, for example, have special clinical laboratory experiences in the summer of their freshman year.

## Procedure for Student Name Change

If a student wishes to change his or her name at Broome Community College, the following policy and procedure must be used by the requestor:

Name change form must be filled out and turned into the Registrar's Office. Name change will be done with the proper documentation. Proper documentation may include any one of the following items:

1. A copy of name change on Social Security card or approved SS form.
2. A State Driver's License (picture) showing the name change.
3. Legal document changing the name.
4. Marriage license, wedding announcement from newspaper, or divorce decree.
5. Other documentation, at the discretion of the Registrar.

A copy of the above documentation should be made by the Registrar's office and placed in the student's folder. Name change goes to Information Technology Services for processing.

## Credit Equivalent

Some courses at Broome Community College carry credit equivalents. This means that they do not give a student credit toward a degree at the College, but they are equivalent to the appropriate number of credits for calculating academic loading and tuition. This credit load is used, to cite some examples, for determining a student's status as full-time or part-time, for financial aid, for billing, and for academic standing. Courses carrying these credit equivalents fall in the 090 numbering series. Examples are: ENG 090 Basic Language Skills; MAT 090 Foundations of College Mathematics I; RDG 090 Reading Fundamentals; RDG 092 College Preparatory Reading. (See Developmental Courses)

## Classroom Practices

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## Attendance Regulations

### General Policy

Colleges throughout the nation have found that students who regularly attend classes have a better success record than students who do not regularly attend classes. With the intent of encouraging student success, BCC strongly urges students to regularly attend their classes. In fact, the College's policy is that a student is expected to come to all class sessions prepared to participate in an appropriate manner. Absence from class is considered a serious matter does not excuse a student from classwork. A student must complete all assignments, examinations, and other requirements of any course, to receive credit.

Absence from class may also affect a student's academic standing and eligibility for financial aid if student is administratively dropped for non-attendance. (See Deregistration below.)

The College understands, however, that students sometimes, due to uncontrollable circumstances, are absent from classes. In these cases, the students need to meet with their instructors to discuss missed work.

## Department Exceptions

Within the spirit and framework of College policy, each department may develop its own guidelines to meet its needs. Such guidelines are subject to the approval of the Vice-President for Academic Affairs.

NOTE: Some developmental courses have strict attendance requirements, whereby students may be deregistered from the class for poor attendance. This deregistration may result in a loss of financial aid. The consequences of this loss may be that the student must return financial aid monies to the College. Consult the course outline and/or the instructor for further details.

## Deregistration

The College is required to administratively deregister a student for a course(s) based on lack of attendance as reported by the instructor of the course on the Official Section Attendance Sheet. Students who have never attended the section or have not attended after the census date will be deregistered from the course by the Registrar's Office and notified of this action, which may result in a loss of financial aid.

Students enrolled in on-line courses must log on at least once a week to be considered attending.

*Students who are administratively dropped for non-attendance during the semester continue to have a tuition and fee obligation.*

## Absence due to Religious Beliefs

Section 224-a of the State Education Law reads:

1. No person shall be expelled from, or be refused admission as a student to, an institution of higher education for the reason that he/she is unable, because of his/her religious beliefs, to attend classes or to participate in any examination, study or work requirements on a particular day or days.
2. Any student in an institution of higher education who is unable, because of his/her religious beliefs, to attend classes on a particular day or days, may be excused from any examination or any study or work requirements.
3. It shall be the responsibility of the faculty and of the administrative officials of each institution of higher education to make available to each student who is absent from school, because of his/her religious beliefs, an equivalent opportunity to make up any examination, study or work requirements which he/she may have missed because of such absence on any particular day or days. No fees of any kind shall be charged by the institution for making available to the said student such equivalent opportunity.
4. If classes, examination, study or work requirements are held on Friday after 4 p.m. or on Saturday, similar or makeup classes, examinations, study or work requirements shall be made available on other days, where it is possible and practical to do so. No special fees shall be



charged to the student for these classes, examinations, study or work requirements held on other days.

5. In effectuating the provisions of the section, it shall be the duty of the faculty and of the administrative officials of each institution of higher education to exercise the fullest measure of good faith. No adverse or prejudicial effects shall result to any student because of his/her availing himself/herself of the provisions of this section.
6. Any student, who is aggrieved by the alleged failure of any faculty or administrative officials to comply in good faith with the provisions of this section, shall be entitled to maintain an action or proceeding in the supreme court of the county in which such institution of higher education is located for the enforcement of his rights under this section.
  - a. A copy of this section shall be published by each institution of higher education in the catalog of such institution containing the listing of available courses.
7. As used in this section, the term "institution of higher education" shall mean schools under the control of the Board of Trustees of the State University of New York or of the Board of Higher Education of the City of New York or any community college.

## **Student Cheating**

An instructor has the prerogative of failing a student who has cheated on an exam, paper, project, report, or other assignment for that exercise only.

An instructor has the prerogative of failing a student in the course when the student has cheated a second time.

If the disciplinary actions described in steps 1 and 2 are inappropriate, the instructor with his/her department chairperson's approval, can recommend an alternative action to the Dean and VPAA.

An instructor who fails a student in a course or any portion of a course because of cheating must file a report of the action with the Dean and VPAA and notify the student in writing immediately after taking such action. The instructor must also notify in writing the student's chairperson and dean, and the instructor's chairperson. When allegations of cheating have been upheld, the Vice President for Academic Affairs may administratively dismiss the student from the College.

An instructor should be prepared to defend the disciplinary action in the event the student feels he/she has been falsely accused of cheating and appeals the instructor's action by means of the Student Academic Appeals Procedure.

## **Classroom Decorum**

Students are responsible for completing all course requirements as specified in the course outline. They are also obliged to be on time to class and to treat their instructors and fellow students respectfully.

Individuals who are disruptive and whose behavior adversely affects the learning of fellow students, may be removed from class.

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# Supplemental and Alternative Learning Opportunities

## Developmental Courses

Various courses are offered through various departments for those desiring skill improvement or review. Some of these carry credit; others do not. The non-credit courses listed below prepare students for credit level work in the basic skills areas of mathematics, writing and reading. These non-credit courses are equivalent in time to credit bearing classes and are applicable toward athletic eligibility.

Developmental courses graded on a letter basis (A, A-, B+, etc.) will not be calculated in the student's semester grade point average and they may not be used for the determination of Academic Honors such as Dean's or President's List.

| Courses   | Credit or Equivalent |
|---|----------------------|
| CHM 090 Preparatory Chemistry                         | 0 or 4               |
| ENG 090 Basic Language Skills                         | 0 or 4               |
| MAT 090 Foundations for College Mathematics           | I 0 or 4             |
| MAT 092 Foundations for College Mathematics           | II 0 or 4            |
| MAT 095 Metric Conversions and Dosages                | 0 or 1               |
| MAT 096 Elementary Algebra and Trigonometry           | 0 or 5               |
| MAT 097 Intravenous Medications and Pediatric Dosages | 0 or 1               |
| PHY 090 Preparatory Physics                           | I 0 or 4             |
| RDG 090 Reading Fundamentals                          | 0 or 4               |
| RDG 092 College Prep Reading                          | 0 or 4               |
| RDG 094 College Vocabulary Skills                     | 0 or 2               |

NOTE: ENG 090, RDG 090, 092 have strict attendance requirements, whereby students may be deregistered from the class for poor attendance. This deregistration may result in a loss of financial aid. Consult course outline and/or instructor for further details.

Other developmental courses may be credit bearing. Students should pay close attention to catalog information pertaining to these courses and should consult their department chairpersons or Learning Assistance personnel about the acceptability of credit in a particular degree program.

| <b>Courses</b>                                      | <b>Credit or Equivalent</b> |
|---|-----------------------------|
| LRS 101 Study Management                            | 0.5                         |
| LRS 102 Memory and Exams                            | 0.5                         |
| LRS 103 Textbook Mastery                            | 0.5                         |
| LRS 104 Listening and Note taking                   | 0.5                         |
| LRS 105 Learning Skills                             | 2                           |
| LRS 106 College Success                             | 3                           |
| LRS 107 Textbook Mastery and Note Taking Strategies | 1                           |
| LRS 108 Study Management and Memory Strategies      | 1                           |
| LRS 120 The Art of Thinking                         | 1                           |
| LRS 130 Intro to Microcomputers and Word Processing | 2                           |
| LRS 150 Advanced Learning Skills                    | 3                           |
| SAC     Student Affairs Courses                     | 1-3                         |

## **College Level Examination Program (CLEP)**

The College will recognize successful achievement at or above the 50th percentile on **CLEP subject exams** in accordance with SUNY and American Council of Education guidelines. Approval of credit for degree requirements or electives is determined by the appropriate department. Credit approval will be handled as transfer credit. Under certain circumstances, a department may accept general examination scores.

## **BCC Credit by Examination (CBE)**

The College in many instances provides for full or part-time BCC matriculated students credit by examination for knowledge gained outside the traditional classroom situation. A letter grade will be posted on the student's transcript upon completion of the exam. Guidelines for this procedure are available from the College's chairpersons and deans. If a student receives an "F" grade after normal completion of a course, no credit by examination may be given in that subject.

# Portfolio Assessment

## (Special Individual Assessment)

The College will evaluate for credit various types of learning acquired outside the usual classroom environment. Particular criteria for awarding credit may be applied by an academic department. Approval of credit is the responsibility of the appropriate department. Students must clearly identify what has been learned. Contact the divisional dean for additional information.

## Special Assessment of Experiential Learning

The College will evaluate for credit various **types of learning** acquired through participation in **learning** experiences, or training provided by business, industry, unions, professional societies, governmental agencies or the military. Particular criteria for awarding credit may be applied by an academic department, and approval of credit is the responsibility of the department. Contact the divisional dean for additional information.

## Service Learning

Several courses offer students the option of a service-learning experience component. These courses respond to community needs, include cooperation with community partners, and provide opportunities for students to work in local community agencies. The service learning activity supplements classroom activity and includes an academic component.

Students will be required to devote a specific number of hours to the community agency. The time commitment varies by course and instructor, but it may be as little as 20 hours or as much as 36 hours over the course of the semester.

## Independent Study

The college offers two types of Independent Study.

1. *Guided Study*: is an opportunity for motivated students to take a regular college course independently, but under the guidance of an instructor. Students must seek faculty sponsorship for guided study and course requirements are part of a formal contract between the student and instructor. Authorization proceeds through instructor, chair and dean. Guided study, as an alternative to conventional, classroom-based coursework, is to be used only in exceptional circumstances and at the discretion of the sponsoring instructor. The guided study course will be approved and appear on the student's transcript under the rubric and title of the specific regular course.
2. *Advanced Study*: is an opportunity for able, highly motivated students to study a subject or topic in greater depth than is available through normal coursework. A formal contract defines the project, establishes reading and writing requirements, sets meeting schedules and stipulates assessment methods and measures. Authorization proceeds through instructor, chair, and dean. The advanced study course will be approved and appear on the student transcript as a "299" Independent Study under the appropriate department rubric. Students are limited to one "Advanced Study" course per semester.

## Honors Courses

The College offers Honors courses or course sections that both help students to fulfill degree program requirements and enhance their degree programs. Honors courses or course sections are distinguished from other courses or course sections in several ways. First, in an Honors course or course section, students engage the course content at a more advanced level. Second, students explore more fully and more independently aspects of the course content that are of particular interest to them as individuals. Third, students commit to more rigor in the course or course section, recognizing the work needed to meet the Honors course or course section learning outcomes and achieve its performance expectations.

Eligibility for enrollment in an Honors course or course section is dependent upon a student's status. Students must have completed 12 credit hours and earned a GPA of at least 3.3. (Presidential Scholars may enroll in Honors Courses in their first semester.) Transfer students also must have completed 12 credit hours and earned a GPA of at least 3.3 at BCC or another college. Too, students may appeal to the discretion of the Chair of the Department offering the course.

An Honors course or course section will be identified on the student's transcript. That identification may benefit the student who intends to apply for transfer to a four-year institution.

## College-on-the-Weekend

College-on-the-Weekend is one way Broome Community College has responded to the needs of a growing number of non-traditional students. Many people wishing to continue their education cannot find the time during the week.

Students can earn credits, part-time, attending classes every third weekend & six weekends each semester, taking one, two, or three classes per term.

Students can take one, two, or three courses and progress at their own pace, and/or can combine College-on-the Weekend with day or evening courses at BCC to move along more rapidly.

Currently, BCC College-on-the-Weekend students can earn an Associate in Applied Science degree in Business with an emphasis in Human Resource Management or Marketing, or an Associate of Applied Science Degree in Accounting.

Various courses will be scheduled each semester to ensure that students will be able to take all necessary courses during the fall, spring, or summer terms. Students with business courses from other colleges should call about credit transfer. For more information call the Business Division 607 778-5008.

## Weekend Services

BCC student services available to College-on-the-Weekend students:

- Financial Aid
- Lab Proctors
- Learning Assistance Center
- Study Areas
- Library Services



- Lounge
- Computers
- Advisors

## Senior Audits

Any citizen of New York State who is 60 years of age or more may "audit" courses at Broome Community College without charge, as long as there is space available. In this context, the word "audit" means these students take the course by attending classes and being exposed to all the work given in class and assigned in the text. They do not have to do the homework or take the examinations, however, and they receive no letter grade or college credit.

## The Online Academy for Distance Learning

The Online Academy at Broome Community College offers a number of distance learning courses each semester that are presented over the Internet. The instructor and students are connected to each other through a computer network. Using the Internet, students receive instruction, submit assignments, discuss issues, ask questions of fellow students and their instructors, work on group assignments, and actively participate in academic experiences; all from their home, office, or from any place they have access to the Internet. Classmates may be from the local community or may live anywhere on the globe. Students may participate any time, anywhere they have an appropriate computer with access to the Internet. There is no specific time that students have to be online, however the courses are not self-paced. There are class activities that students participate in each week.

Online courses meet the same rigor, standards, and learning outcomes that our traditional courses offer. They are generally taught by the same faculty that teach the course on campus and provide a high level of instruction and personal attention from the instructor.

In some majors, by careful selection of courses, it is possible for students to complete a substantial part of their degree requirements online.

The Online Academy web site at <http://sunybroome.edu/~online> provides up to date information on available courses and answers many frequently asked questions. For more information contact the Registrar's Office at 607 778-5027, the Counseling, Career Development & Advising Services at 607 778-5210, or consult with the department chair.

## Overseas Study Program

### Semester Aboard Programs

BCC provides formal, structured programs lasting for a semester or a year, in Australia, England, France, Spain, Italy, Korea, Ecuador, Greece, Ireland, Portugal, Dominican Republic, Mexico, China, Germany, and Switzerland. Students study a full semester program (usually 15 to 18 credits) that is arranged prior to their departure at affiliated schools, institutions, colleges, or universities abroad.

The subject areas range from liberal arts courses to specialized programs such as criminal justice, international business, and languages. Costs of these programs vary greatly, with emphasis on high quality programs at public institutions. The costs approximate those at U.S. public colleges. For 2005-

06, the cost of a full semester in the popular program in England was about \$7,600. This includes room and board, all tuition costs, and many extras.

Many BCC students will find their academic and personal lives enriched through a cultural experience difficult to match in a conventional two-year course of study in this country.

Students are able to use their financial aid packages for overseas study. A few special scholarships are also available. Over 300 students a year participate in the BCC Study Abroad programs.

## **Admission to Programs**

Admission to the College does not automatically ensure admission to BCC programs overseas; separate application must be made. Students will be evaluated on their academic ability, motivation, maturity, and potential adaptability to a foreign culture. In addition to BCC approval, interviews with personnel from affiliate consortium institutions may be required. All programs are available to students from any college or the general public. Prior knowledge of a foreign language is not necessary.

## **January and Summer Short Programs**

During each academic year BCC conducts short-term programs in January and in the summer months. A list of the January offerings is usually available by November.

The summer programs vary in length from two weeks to one month. Recent offerings have included Italian Culture and Language, and Field Ecology in Australia.

During the summer, there are special month-long programs in Italy, France and Spain. The cost of these programs was \$3,400 each for 2006 but some students are able to qualify for scholarships. A full list of courses being offered during the summer is usually available in March.

## **International Students**

### **Credits, Transcripts, and Tuition**

### **For Study Abroad, Semester, Intersession and Summer Session**

Students register at BCC and pay the appropriate tuition, which in some cases covers the instructional cost abroad. Students are monitored through consortium offices at the college they attend. Upon the successful completion of the formal program or after fulfillment of the contract, students will receive a BCC transcript reflecting the grades achieved or the course equivalents for the work done through the contract, greatly facilitating transfer of credits to other American institutions.

Full-time students registering for courses that are scheduled other than in the Fall or Spring semesters will be charged at the part-time tuition rate. Sessions other than fall and spring semesters will be called Summer Session and Intersession.

The usual refund policy is not in effect for students taking courses in the Intersession and summer. Refund policies in semester length programs are determined by the receiving foreign institutions.

Grades received for all courses taken from the beginning of the Fall Semester through the end of that semester will be considered first semester grades. Grades received for all courses taken from the end of the first semester through the end of the second semester (even if taken in January or abroad) will be recorded as second semester grades.

Summer Session is treated like a third semester. The regular college grading system is used for all programs. All credits earned are Broome Community College credits, which allows students to use their financial aid packages for semester length programs.

Students may earn up to 18 credits per semester, leading to an associate's degree. Credits for Intersession/short-term programs range from one to six, depending on the time spent abroad, and the instruction offered in the program.

An Overseas Study bulletin board is maintained in the first floor lobby of Titchener Hall.

For additional details about any of the above programs, students should contact the International Studies Program Office at 607 778-5030.

## **Baccalaureate Transfer**

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Broome Community College graduates have successfully transferred to a wide array of baccalaureate degree granting higher education institutions. These include both private and public colleges and universities in and out of New York State. Some of these are listed below.

### **In-State Public Institutions State University Centers at:**

Albany  
Purchase  
Binghamton  
Stony Brook  
Buffalo

### **SUNY Colleges State University Colleges at:**

Brockport  
Buffalo  
Cortland  
Delhi  
Fashion Institute of Technology  
Fredonia  
Geneseo  
New Paltz  
Oneonta  
Oswego  
Plattsburgh  
Potsdam  
SUNY College of Agricultural & Life Sciences (Cornell)  
SUNY College of Environmental  
Science & Forestry  
SUNY College of Human Ecology (Cornell)

SUNY Upstate Medical University  
SUNY Institute of Technology Utica/Rome

## **In-State Private Institutions**

Clarkson University  
College of St. Rose  
Cornell University  
Culinary Institute of America  
Elmira College  
Excelsior College  
Hartwick College  
Houghten College  
Ithaca College  
LeMoyne College  
Marist College  
Mercy College  
New School for Social Research  
Niagara University  
Pratt Institute  
Rochester Institute of Technology  
St. Bonaventure University  
St. John Fisher College  
Syracuse University  
University of Rochester

## **Out-of-State Institutions**

American University (DC)  
Anatolia College (Greece)  
Arizona State University  
Art Institute of Pittsburgh (PA)  
Bloomsburg University (PA)  
Coastal Carolina University (SC)  
College of William & Mary (VA)  
East Stroudsburg University (PA)  
Fairleigh Dickinson University (NJ)  
Fayetteville State University (NC)  
Florida Atlantic University  
Franciscan University of Steubenville (OH)  
Gallaudet University (DC)  
Indiana University  
Mansfield University (PA)  
Marymount College (VA)  
Marywood College (PA)  
Massachusetts College of Pharmacy  
National College of Chiropractic (IL)  
North Carolina State University  
Northeastern University (MA)  
Northern Arizona University



Oklahoma State University  
Pennsylvania State University  
Rutgers State University (NJ)  
Sam Houston University (TX)  
San Jose State University (CA)  
University of Maryland  
University of Nevada  
University of North Carolina  
University of Pittsburgh (PA)  
University of Vermont  
University of Texas  
Virginia Tech  
Wilkes University (PA)  
York College of Pennsylvania

## Special Transfer Programs

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### Guaranteed SUNY Transfer

Students who graduate from Broome Community College with Associate in Arts or Associate in Science degrees are guaranteed admission, at the third-year level, to a four-year college of the State University of New York. This guarantee has certain limitations and details are in the Student Services Building, Room 210.

Broome Community College has special articulation agreements with many two-year, upper division, and four-year colleges. The institutions listed here have transfer arrangements with BCC which allow BCC graduates to continue their education toward their baccalaureate degrees. For more information, contact the Student Services Building, Room 210.

Faculty members will work directly with students on an individual basis to develop accurate transfer plans. It is always important for each student to take personal responsibility for the transfer process and to communicate in writing directly with the intended transfer institution, including the department of their preferred major, to assure that they are taking needed and transferable courses while attending BCC.

### Cooperative Programs Nursing, SUNY Brockport

Broome Community College has a Three- Plus- One Program with the Department of Nursing at SUNY-Brockport. After completion of the AAS degree in Nursing at Broome Community College, students take additional courses at Broome Community College during the third year. After successfully completing entrance exams, the student is admitted to SUNY Brockport for completion of the Bachelor of Science in Nursing degree.

### BCC to Excelsior Transfer Program

While completing a second Associate's degree at BCC, students are able to satisfy the majority of the requirements for a bachelor's degree from Excelsior College. The Bachelor's degree is awarded by Excelsior College upon completion of all degree requirements and payment of required matriculation

and graduation fees. Current BCC/Excelsior students who are seeking academic advisement or BCC students desiring information about the BCC/Excelsior transfer agreement should contact Laura St. George in the Office of Continuing Education at 607 778-5364.

## **Keystone College**

BCC students may also cross-register at Keystone College in LaPlume, PA, for one course each semester. The courses for which they cross-register must be ones that are not available at Broome Community College, and they can take them without paying additional tuition. Additional information is available in the Registrar's Office (Student Services Building, Room 105).

## **Engineering Science**

The Engineering Science Department has joint admissions agreements with Binghamton University's Watson School and with Buffalo University's School of Engineering. The department maintains specific articulation agreements with Cornell University, Clarkson University, Wilkes University, and Tri-State University, and a general articulation agreement with the Association of Engineering Colleges of New York State, all of which assure transfer as a junior to these institutions. Contact the Engineering Science Department for additional information.

## **Engineering, Binghamton University**

### **Transfer Agreement**

All Broome Community College students who have graduated or will graduate with an AA or AS degree with a grade point average of at least 3.0 will be admitted, upon application, as matriculated students at Binghamton University as space permits. Those students graduating with the above degrees, but with a grade point average between 2.6 and 3.0, are usually admitted. Others, including those with an AAS degree, should contact the Binghamton University Office of Admissions. Admitted students will be granted junior-year standing upon presentation of 56 or more transferable credits.

## **Environmental Science and Forestry Pre-Environmental Science and Forestry**

This program is designed for those students who ultimately desire a B.S. degree in Environmental Science and Forestry (ESF), which is an upper division/graduate center.

After the first two years of study at Broome Community College, transfers to ESF may apply to a variety of programs at Syracuse which may include the *biological sciences* (botany and forest pathology, entomology, zoology, wildlife biology, silvics, pest management); *chemistry* (natural and synthetic polymers, biochemistry and natural products, environmental); *forest engineering, paper science and engineering; wood products engineering; and forestry* (resource management, forest resource science, management science, environmental forestry, applied resource management). The program in landscape architecture leads to a B.S. degree in environmental studies and, after one additional year, a Bachelor of Landscape Architecture degree.

Persons planning to transfer should follow the program requirements in consultation with BCC's Pre-Environmental Science and Forestry campus advisor for selection of electives which may vary according to the curriculum at ESF.

Successful graduates of Broome Community College's Pre-Environmental Science and Forestry Program generally gain admission to the SUNY College of Environmental Science and Forestry with full junior class status.

## One-Plus-One Programs

Broome Community College has One-Plus-One programs with other two-year colleges to enable a student to attend BCC for one year and then transfer to the other college for the second year for the Associate in Applied Science degree. This program permits students to begin studying at BCC for a degree in a field not offered at this college. By taking the BCC courses that one needs for the particular degree involved, residents of Broome County can enjoy the advantage of living at home during one year of their college attendance. Students taking these One-Plus-One Programs are Liberal Arts and Human Services students at Broome Community College because most of the courses they take at BCC are Liberal Arts and Human Services courses.

Check with the Liberal Arts and Human Services Office for more information about these programs.

## Part-Time Studies

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## General Information

Anyone in the community may enroll as a part-time student; BCC attracts a large number each year. These are mostly "nontraditional" students, men and women who also work full-time. The College has a strong commitment to serving the part-time student.

Part-time students are those who take fewer than 12 credits per semester, usually one or two courses. At BCC, part-time students can:

- enroll in credit courses, or non-credit mini courses.
- take day, evening, or weekend courses.
- attend classes in the fall, spring, or summer semester.
- earn a degree or not, as they see fit. Certificate programs are available.
- receive academic advising and personal counseling.
- borrow books from the College library.
- receive Veterans' benefits.
- transfer credits to BCC earned at another college.
- participate in the College-on-the-Weekend Program.
- part-time matriculated students carrying at least 6 credit hours are eligible for financial aid; less than half-time students may also qualify for some Federal and State financial aid. All students should complete their FAFSA as early as possible.

## **Admissions**

Although part-time students can take courses without being admitted, it is generally in the student's best interest to seek admission early in their studies. This will ensure more accurate and comprehensive advisement. Also, financial aid programs require formal admission to a degree program.

## **Placement Test**

Part-time students are required to demonstrate basic skills competency for college level work. All matriculated students & those who are officially enrolled in a degree program & are required to take placement tests in reading, writing, and mathematics. The scores from the tests are used together with high school records to place students in courses where they will have the best chance to succeed. Contact the Admissions Office (607 778-5001) or your advisor for testing information.

## **Advisement**

Academic advisement and counseling are available for all Liberal Arts and Human Services part-time and evening students in the Student Services Bldg., Room 210. Call 607 778-5421 to make arrangements to receive academic advising assistance.

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# Student Services

## Section 6



## Student Services

- Library/Learning Resources Center (LRC)
- Extra Help at the Learning Assistance Center
- Services for Students with Disabilities
- International Student Services
- Student Health Services
- Child Care
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- Bookstore
- Academic Advising
- Educational Opportunity Program
- Job Placement Services
- Placement and Transfer Statistics: 2004 Graduates
- Student Right-To-Know Statement
- Veterans Services

## Library/Learning Resources Center (LRC)

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The Cecil C. Tyrrell Learning Resources Center was constructed in 1967-68 and named after the College's founding president. The building is an attractive, three-story structure, which houses the Library, the Learning Assistance Center, Teaching Resources Center, as well as offices and classrooms.

The Library provides the resources and services to meet the informational and instructional needs of BCC students, faculty, and the broader college community. Its primary functions are to support and supplement the academic programs of the College, increase information literacy, and to provide a center for serious study, research, and learning.

The Library integrates a variety of print, electronic, and non-print materials with the necessary services and equipment to enhance their use. Our electronic databases provide access to approximately 10,000 full text articles that students can access through the Internet at any time. The print collections consist of nearly 67,000 books and 300 periodical titles. The non-print collection includes videos, CD's, DVD's, audio books, microfilm, and other audio-visual formats.

Access to our collections is provided through our Online Public Access Catalog. To ensure access to books and magazine articles not owned by the College, the Library participates in various local, regional, state, and national reciprocal access and borrowing agreements. Library staff can request specific books or articles from other libraries through interlibrary loan. In addition, the Library maintains listings of other area libraries' periodical holdings where students can have direct access to their collections.

Library facilities include a student computer lab, Library instruction classroom, public access electronic database stations, web-based public access catalog, individual study carrels, small group study rooms and individual audiovisual viewing stations.

The library has wireless connections to the internet and wireless laptops available for student and faculty use within the library with a valid BCC ID.

A staff of professional, technical, and clerical specialists offers a broad range of services including lending of materials, information services, assistance with research techniques, and instruction in the use of materials and equipment.

Most materials may be borrowed for use outside the Library, although restrictions are placed on reference and reserve works. The basic loan period for books is twenty-one days, and for videocassettes, seven days.

The BCC ID card, issued by Student Affairs, serves as a Library card. Failure to return borrowed materials promptly upon notice can result in withholding of grades, transcripts, and other services as well as collection fees. The borrower is responsible for all materials charged out on his/her card.

The Library is open for service during the following hours:

#### **Fall and Spring Semesters**

Monday-Thursday 7:30 a.m. to 10 p.m.

Friday 7:30 a.m. to 5 p.m.

Sunday 3 p.m. to 7 p.m.

#### **Summer Session**

Monday-Thursday 7:30 a.m. to 10 p.m.

Friday 7:30 a.m. to 5 p.m.

Sunday 3 p.m. to 7 p.m.

#### **Holiday and Intersession**

As posted

The Library is closed on all the days that the College is officially closed.

## **Extra Help at the Learning Assistance Center**

The Learning Assistance Center provides a comprehensive range of programs and services designed to foster development of critical thinking, problem-solving, and educational opportunities to enhance teaching and learning. These programs and services include:

- Writing Center
- Math Lab
- Tutoring Program
- Supplemental Instruction
- Reading/Study Skills Support
- Student Support Services
- Deaf/Hard of Hearing Program
- Learning Disabilities Program



## Writing Center

Writing plays a big role in college and professional life, and the Writing Center is here to help you develop your writing. We work with writers on papers, essays, resumes, applications, and creative pieces--writers at any stage of their process, from initial brainstorming and prewriting through revising and polishing that final version. We offer one-on-one or small group sessions, workshops, online consultations, and a wealth of informative handouts about writing clearly and effectively. We're located in L-8, near the Math Lab and the LAC; you are welcome to stop by to meet us and find out more about the services we offer.

You can make an appointment with the Writing Center in person in the Writing Center (L-8), the LAC (L-6) by calling 607 778-5632 or 607 778-5038. You can access more information about our hours and find helpful online resources by **visiting our website**.

## Math Lab

The Math Lab offers individual and group tutorial assistance for students in courses ranging from arithmetic to calculus. The lab is staffed by peer tutors, mathematics department members, and learning specialists. Professional tutors are also available to assist with questions related to mathematics courses. You may use the lab as often as you wish each day without an appointment, and are welcome to stay for as much time as you need.

## Tutoring Program

The Peer Tutoring Program provides any BCC student with free tutorial support via three modes:

1. Long-term individual tutoring
2. Short-term 'drop in' group tutoring
3. Online tutoring

Peer and professional tutors are trained to lead individual or group sessions in courses across the disciplines. Tutors guide students in becoming active learners and provide strategies and skills important for course success. All students are welcome to take advantage of this support.

## Supplemental Instruction

An internationally recognized program, Supplemental Instruction facilitates guided study sessions for stepping stone and challenging courses. In each of these sessions, the SI leader helps students learn new study strategies and course concepts. Typically students that attend these sessions earn higher grades and successfully complete classes than their classmates who do not attend.

## Reading and Study Skills Support

The ability to read efficiently and effectively is one of the keys to college success. Some students find that the volume and difficulty of college reading is more than they had anticipated. If you discover you need help, you can make an appointment with professional tutors to work one-on-one with you. They can suggest strategies that will make textbooks and classroom notes more manageable. Tutors can also work with you on time management skills, vocabulary development, and test taking

strategies, all helping you develop good strategies for college success.

## **Services for Students with Disabilities**

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### **Student Support Services**

BCC is committed to meeting the needs of students with disabilities. If you are a student with disabilities, you are entitled to accommodations based on your individual needs and disability documentation. The Student Support Services program coordinates these accommodations and support. Note takers, testing accommodations, class accessibility and scheduling, adaptive equipment, alternative texts, and other arrangements for educational access are arranged based on your disability documentation.

### **Deaf/Hard-of-Hearing Program**

Deaf and hard-of-hearing students participate in every aspect of campus. This program works to ensure that if you are deaf or hard-of-hearing, you have complete access to offices and activities at the College. Qualified interpreters and note takers are provided for classes and conferences, as well as for any student club activities, athletics, and cultural events.

### **Learning Disabilities Program**

#### **Students with Learning Disabilities**

The LD program offers services to students with learning disabilities (LD), attention deficit disorders (ADD/ADHD) or Asperger's and Autism Spectrum Disorders, as well as to students who suspect they have an undiagnosed disability. Students who provide documentation of a disability to the College may have access to a variety of services. Services include academic accommodations, skills instruction, learning/study strategies, self-advocacy training, academic advising/planning, and academic coaching.

If you suspect that you have an undiagnosed disability, you are encouraged to meet with a Learning Disabilities Specialist. An on-campus evaluation is available, at no charge, to determine your eligibility. If a disability is identified, you may access services from the Learning Disabilities and Student Support Services programs.

### **International Student Services**

The International Student Counselor assists international students with addressing a variety of needs while they attend BCC, including personal, academic, immigration and cultural concerns. New international students are required to attend a New International Student Orientation program that addresses immigration responsibilities, campus life, local housing needs, and much more. Interested students can locate the International Student Counselor in the Admissions Office in the Wales Building room 102, or call 607 778-5001.

## Student Health Services

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Student Health Services is located in the Science Building, Room 102, and is open 8:30 a.m. to 4:30 p.m., Monday through Friday. All records are confidential, and information will be released only with the written authorization of the student.

The professional staff includes a part-time physician and clinic nurse, and a full-time nurse practitioner.

### Services:

- Limited treatment for illnesses and injuries
- Limited medical emergency care
- Blood pressure screening
- Pregnancy tests
- Measles, Mumps and Rubella immunizations (MMR - \$65 charge)
- TB screening (\$10 charge)
- Tetanus immunization (\$15 charge)
- Contraceptive information
- Healthy lifestyle information
- Tests for strep throat

## Child Care

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For many students, a major concern is finding a safe place for their children during class time. The Faculty-Student Association helps to meet that need by operating a licensed child care service known as The B.C. Center.

The purpose of the service is to provide quality care in an educational, instructive, and warm environment. The staff is genuinely interested in the emotional, intellectual and physical growth of each child.

Space is limited, and registration is required. For additional information, call 607 778-KIDS (607 778-5437).

## Campus Shop

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Students may purchase required course and general supplies, imprinted sportswear, general books, study aids, newspapers, gifts and other merchandise from the Campus Shop.

Located in the Student Center, the shop is open throughout each semester for students' convenience.

The Campus Shop is operated by the Faculty-Student Association of Broome Community College, Inc.

## Bookstore

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Students may purchase their course books from the Bookstore which is located in the Campus Services Building.



The store opens two weeks prior to the start of classes for advance sales, and students are encouraged to take advantage of the opportunity to purchase their books early.

The Bookstore is operated by the Faculty-Student Association of Broome Community College, Inc.

For additional information, please view the BCC Bookstore web site.

## Academic Advising

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Academic advising provides clarification of degree and SUNY General Education requirements, assists students with academic planning, and may initiate referrals to campus resources. Advisors, through both individual and group sessions, help students understand their role and responsibilities in the advising process, and aid students in selecting courses appropriate for their degree and transfer goals.

Contact information for Liberal Arts Division students: T210 (607 778-5219 or SS210 (607 778-5421).

## Counseling Services

Counseling Services assists students with career and life planning, academic issues, personal concerns, and the transfer process/information. College students often encounter new experiences, pressures, anxieties, and challenges. Students can meet with Counselors in a confidential, helpful, and informal atmosphere, as they seek to develop their potential, form realistic goals, and understand themselves emotionally and intellectually. Call 607 778-5210 for an appointment, or walk-in for assistance in Room 210 in the Student Services Building.

Services include:

## Career and Life Planning

Counselors assist students in exploring and establishing specific career life goals. The Counselors use a step-by-step approach to help people identify and pursue their most fulfilling options. Services include individual career counseling, interest inventories, computerized career exploration programs, access to career information, career exploration workshops, and career exploration classes.

## Human Development Courses

Several credit-bearing courses have been designed to help students establish healthier self-concepts, develop better self-understanding, and/or set and accomplish life/career goals. Courses are taught by counseling faculty members. Courses include:

- SAC 250 Career Exploration assists students who are undecided about their career goals. Students learn the step-by-step process of deciding upon and implementing a career plan.

## Academic Counseling

Counselors assist students in channeling their academic efforts in the proper perspective by helping them link their studies to personal and career goals and by aiding students when they are having difficulties in the classroom. Other academic issues, such as course and school withdrawal and curriculum change, can also be discussed with a Counselor.



## **Personal Counseling**

Counselors provide assistance to students who are experiencing social, personal, and family concerns. They are available to help the student face these issues in a safe and confidential setting. Without resolution of the problems, a student's performance in their studies often suffers and, in many cases, leads to the student being dismissed from the college due to poor grades. These individual counseling sessions help students regain perspective and purpose. Counselors also assist students with referrals to appropriate community services. Call 607 778-5210 for an appointment, or walk-in for assistance in Room 210 in the Student Services Building.

## **Special Workshops and Seminars**

Counselors offer a variety of workshops and seminars throughout the year. Topics have included: career exploration, stress management, returning to college, cross cultural communication, self esteem, depression, and others custom- ized to meet the needs of students.

The above Counseling Services are available in the Student Services Building, Room 210. Appointments are encouraged and walk-in times are available. Call 607 778-5210 for an appointment and ask to see a counselor.

## **Transfer Counseling**

Counselors and instructional faculty members both assist students who are interested in continuing their education after BCC by helping them identify colleges that match their educational and personal needs, interests, and abilities, and gain important information about the colleges they are considering. Transfer assistance helps students understand the procedures and steps that are necessary for successful and smooth transfer. Students can also utilize an extensive library of college catalogs, computerized information files, and transfer workshops available in Room 210 of the Student Services Building.

Counselors and the Admissions Office work together to present the annual Transfer Day on campus. During this program, representatives of four-year colleges and universities answer student questions about their institutions and give them specific information to help with their selection of an upper-division college.

## **Educational Opportunity Program**

The Educational Opportunity Program is designed for New York state residents who meet specific academic and financial guidelines. Eligible students can receive economic aid, remedial and developmental assistance, with the amount of support based on need. To be eligible, students must provide appropriate income verification documents and apply before or during the first semester of college. Call 607 778-5220 for further information.

## **Job Placement Services**

A successful job search requires an understanding of how to identify employers who seek your academic and experiential background. The BCC Placement Services Office (SS-210, 607 778-

5205/5207) not only assists students in locating positions, but also helps in developing a winning resume, how to prepare for the job interview, and offers timely advice in other job search issues.

Broome Community College's Placement Services Office website allows students to view daily updated part-time and seasonal job listings. Students are welcome to stop by and pick up a copy of the Job Search Handbook, featuring many sample resumes, cover letters and other employment related information.

Employers visit our campus to meet predominantly with graduating seniors. This is done through on-campus mini-job fairs held individually throughout the academic year, as well as our annual spring job fair, held usually the first Thursday in April. Typically between 35 and 50 employers take part in this annual event. A resume is a must for students to participate.

## Veterans Services

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The Veterans Services Office assists qualified veterans and other eligible students in acquiring and using educational benefits from the Department of Veterans Services. Benefit programs include Active Duty and Guard/Reserve GI Bills, Dependents Educational Assistance\ Program (DEA), Vocational Rehabilitation and Post 9/11 GI Bill.

Eligible Students should contact the Veterans Services Office at 607 778-5148. The office is currently located on the second floor of the Student Services Building, Room 214.

## Placement and Transfer Statistics: 2008 Graduates

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### % Of Those Finding Work or Transferring

- 46% of the graduates went to work.
- 51.3% transferred to 2 or 4-year colleges and universities
- 1027 graduates were in this class, 19 of which received dual degrees; with 719 responding to the survey, or 69%

### Where They Went to Work

- 75.7% of those went to work found jobs in Broome County, with an additional 11.2% working elsewhere in the Southern Tier. In addition, 8.2% found employment elsewhere in New York State, and another 4.9% were employed outside the state.

### Where They Transferred To

- 54.2% transferred to SUNY colleges
- 6.8% transferred to New York State private colleges
- 4.3% transferred out of state
- 0.7% transferred to unknown colleges

## Placement By Academic Division

- Business and Office Technologies: 47% employed; 49% transferred; 5% unemployed
- Engineering, Technology, and Computing: 34% employed; 65% transferred; 2% unemployed
- Health Sciences: 82% employed; 15% transferred; 2% unemployed
- Liberal Arts and Related Careers: 28% employed; 67% transferred; 4% unemployed

## Placement by Curriculum

The following is a summary of each curriculum of BCC's four academic areas in which there were graduates in 2008. Salaries indicated are the computed mean salaries.

### Business and Office Technologies

- Accounting: 72% employed; 11% transferred; 17% unemployed; \$28,650.50
- Business Administration: 29% employed; 71% transferred; \$22,500
- Business Information Management: 39% employed; 46% transferred; 15% unemployed; \$12,558
- Desktop Publishing Certificate: No information available
- Hotel Restaurant Management: 67% employed; 20% transferred; 13% unemployed; no salary information
- International Business: 0% employed; 100% transferred; 0% unemployed; no salary information
- Office Administration: 50% employed; 50% transferred; 0% unemployed; no salary information
- Financial Services: 33% employed; 33% transferred; no salary information
- Management: 60% employed; 40% transferred; no salary information
- Marketing Management: 68% employed; 32% transferred, 0% unemployed; \$36,500
- Paralegal Certificate: 100% employed; 0% transferred; no salary information
- Paralegal: 33% employed; 67% transferred; no salary information
- Web Management Certificate: 50% employed; no salary information

### Engineering, Technology, and Computer Studies

- Civil Engineering Technology: 40% employed; 60% transferred; \$36,373.33
- Computer Information Systems: 33% employed; 67% transferred; no salary information
- Computer Science: 20% employed; 80% transferred; no salary information
- Computer Technology: 100% transferred
- Electrical Engineering Technology: 71% employed; 14% transferred; 14% unemployed; no salary information
- Engineering Science: 100% transferred
- Industrial Technology: 20% employed; 80% transferred; no salary information
- Industrial Technology Quality Assurance: No information available
- Industrial Technology Quality Assurance Certificate: No information available
- Mechanical Engineering Technology: 80% employed; 20% transferred; no salary information
- Telecommunications Technology - Verizon: 100% employed



## Health Sciences

- Dental Hygiene: 91% employed; 6% transferred; 3% unemployed; \$44,547.78
- Emergency Medical Technician/Paramedic: 100% employed; no salary information
- Health Information Technology: 60% employed; 40% transferred; \$29,850
- Medical Assistant: 100% employed; no salary information
- Medical Laboratory Technology: 80% employed; 10% transferred; 10% unemployed; \$39,982.86
- Medical Transcriptionist Certificate: 67% employed; 33% transferred; no salary information
- Nursing: 80% employed; 18% transferred; \$43,077.57
- Phlebotomy Certificate: 44% employed; 56% transferred; no salary information
- Physical Therapist Assistant: 100% employed; \$28,880
- Radiologic Technology: 86% employed; 7% transferred; 7% unemployed; \$25,506.67

## Liberal Arts and Related Careers

- Criminal Justice - Corrections: 100% employed; no salary information
- Criminal Justice - Police: 61% employed; 36% transferred; 3% unemployed; \$34,828
- Early Childhood: 60% employed; 40% transferred; no salary information
- Early Childhood Certificate: 50% employed; 50% transferred; no salary information
- EMT Paramedic: 100% employed
- Fire Science: 60% employed; 40% transferred; no salary information
- Human Services: 21% employed; 79% transferred; no salary information
- Individual Studies (AS): 19% employed; 79% transferred; 3% unemployed; no salary information
- Individual Studies (AT): 44% employed; 44% transferred; 11% unemployed; no salary information
- Liberal Arts (AA): 11% employed; 88% transferred; 1% unemployed; no salary information
- Chemical Dependency Counseling (AS): 100% employed; no salary information
- Communications and Media Arts (AS): 36% employed; 55% transferred; 9% unemployed; no salary information
- Liberal Arts Certificate: 50% transferred; 50% unemployed; no salary information
- Liberal Arts (AS): 100% transferred; no salary information
- Liberal Arts General Studies (AS): 18% employed; 76% transferred; 5% unemployed; \$31,460

## Student Right-To-Know Statement

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The Federal Student Right-to-Know Act was enacted in 1991 and final regulations were published on December 1, 1995. This legislation requires any institution of postsecondary education receiving Title IV funds to disclose calculation and disclosure of graduation rates and transfer-out rates of students. The act also requires the following:

- Only first time, full-time degree/certificate seeking undergraduates are included in the calculation.
- Students are reported at the end of the period, which constitutes 150% of the time needed to complete a degree. The report would include those students starting in the cohort of fall 1996 and concludes with the ending date of August 31, 1999.



- Additional copies of this report are available in the Registrar's Office, Student Services Building, room 105.

The following report fulfills the Student Right-To-Know Act reporting requirements for graduation rate and transfer-out rate for BCC students.

## Student Right-To-Know

### Fall 2005

Full Time /First Time 1,287

### Degree Graduates

By Aug 31, 2008 334

**Graduation Rate** 25.9 %

### Transfer Students

Without a Degree 211

### Transfer Rate

Without a Degree 16.4%

## Top 12 Transfer Schools

|                          |     |
|--------------------------|-----|
| Binghamton University    | 103 |
| Broome Community College | 79  |
| SUNY Cortland            | 53  |
| SUNY Oneonta             | 11  |
| Empire State College     | 9   |
| SUNY Oswego              | 9   |
| RIT                      | 8   |
| Excelsior College        | 7   |
| Elmira College           | 4   |

|  |   |
|--|---|
| Penn State   | 4 |
| SUNY Institute of Technology   | 4 |
| Cornell University; Drexel University; SUNY Albany;                    | 3 |
| SUNY New Paltz; University of Albany; and University of North Carolina |   |

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# Student Life

## Section 7





## Student Life

- Athletics
- Clubs, Societies, and Organizations
- The Student Assembly
- Performing and Fine Arts

## Athletics

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### Intercollegiate Sports

The Athletics department at Broome Community College serves as an integral part of the institution's total academic and student activities program. BCC is serious about athletics. The department strives to provide an environment in which the athlete can achieve maximum development physically and mentally, through a well-rounded schedule of intercollegiate competition in athletics.

BCC is one of 523 member schools of the National Junior College Athletic Association (NJCAA). It is also one of 26 members of the subdivision of NJCAA Region III. BCC also participates in the Mid-State Athletic Conference as well as the Junior College Hockey League.

For Intercollegiate competition, Broome Community College fields men's teams in eight varsity sports teams; basketball, baseball, cross-country, golf, ice hockey, soccer, lacrosse and tennis. For women BCC sponsors seven varsity sports teams: basketball, cross-country, lacrosse, soccer, softball, tennis and volleyball.

BCC athletics teams have a rich tradition of success in two-year college competition. The winning tradition began with Dick Baldwin, who formerly coached the men's basketball team at BCC for 40 years and recorded 879 victories. Over the years the men's baseball, tennis, golf, soccer, cross-country, lacrosse and ice hockey teams have won numerous Regional and Conference championships. Many of their student-athletes have won All-American and All-Region honors and have continued their careers at four-year colleges.

The women's program has been equally successful. The BCC women's soccer team has won back-to-back Division III National championships in 2007 and 2008. The women's tennis and softball teams have recently won Regional championships and competed in the National tournaments. Soccer, volleyball, basketball and cross-country teams have won Conference championships and contributed to the rich athletic tradition at BCC.

Cheerleading is also available for both men and women.

In order to participate in Intercollegiate Athletics, students are required to meet NJCAA rules and academic eligibility requirements. All prospective athletes should contact the Athletics Office in the Student Center West (778-5003) to obtain further information on athletic eligibility requirements.

The Equity on Athletics Disclosure Report is available in the Athletics office upon request.

The Athletics Program is enhanced by its facilities: two large, fully-equipped gymnasiums, a weight room, fitness center, a dance/combatative room, athletic trainer's room, a baseball field, soccer field, full size hockey rink, and six tennis courts. A softball complex of four fields is also available to the College.

## Intramurals

Physical activity is a vital part of an individual's life, regardless of physical capability. With this in mind, the Student and Community Affairs division and the Athletics department coordinate an intramural program for all students enrolled at the College. Students are invited to participate in team sports such as indoor soccer, basketball and volleyball. For those interested in individual competition or "Play for Fun" sports such as tennis, golf, badminton, and bowling are also offered.

## Clubs, Societies, and Organizations

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Involvement in campus clubs provides a chance to exercise skills important to lifelong learning which may or may not be covered in the classroom. Depending on the purpose, club activities may range from overseas travel to local charity works.

Many organizations on campus are part of national organizations, either as student chapters of professional societies, service organizations, or honor societies. Club activity varies from year to year depending on student interest with new clubs developing around new pursuits. Current clubs include:

- Accounting Club
- Alpha Beta Gamma (Business Honor Society)
- American Society of Civil Engineers
- American Society for Engineering Education (ASEE)
- American Society for Quality (ASQ - Student Branch)
- Animation, Graphic Design and Illustration Club
- BCC Quilts
- Black Student Union
- Bowling Club
- Broome Educators of Children Association (BECA)
- Campus Bible Fellowship
- Chemical Dependency Counseling Club
- Chess Club
- Clinical Lab Technology Club
- Communications Curriculum Club
- Computer Club
- Criminal Justice Student Association
- Cultural Discussion Group
- Dance Club
- Differently Abled Student Association (DASA)
- Ecology Club
- Emergency Response Team
- Fine Art & Design Club
- Health Information Technology Club
- History Club
- Hotel & Restaurant Management Club
- Institute of Electrical & Electronic Engineers (IEEE)
- International Students Organization
- Japanese Animation Club
- LingoNet Club
- Medical Assistants Club
- Metal for the Masses Club
- Music Association

Musician's Network  
Muslim Student Organization  
Newman Association  
On the Quad Club  
Paintball Club  
Phi Theta Kappa (Honor Society)  
Philosophy Club  
Physical Therapist Assistant Club  
Political Science Club  
Radiologic Technology Club  
Rotaract  
Ski Extreme  
Student American Dental Hygienist Association  
Student Nurses Association  
Tutor Club  
Unity in Pride  
Veterans Club  
Weight Lifting Club  
Women's Discussion Group  
World Music Club

## The Student Assembly

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The Student Assembly is the students' voice on campus. Membership consists of five Executive Board members and 15 Senators. The SA works with the Student Activities Office on campus and community programs. SA members provide input to campus life issues through their participation in campus boards and committees, including College Council, Parking Appeals Board, and the Faculty-Student Association. Students serving in the SA have also gone on to serve with the New York State Student Assembly as Community College Representatives.

## Performing and Fine Arts

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Student Life at BCC means a variety of activities and performances going on weekly. Music, theater, comedy, dance, poetry readings, and contests, as well as lectures, seminars, and discussions are offered during the Common Hour. Annual events, including Student Activities Day, Halloween Costume Contest, The Giving of the Toys, Annual Student Art Exhibition, and Spring Fling, bring the campus to life.

The BCC Theater Department offers productions throughout the year of classic and new plays. Students may participate in productions whether or not they are enrolled in formal course work.

The BCC Music Association, the BCC Jazz Ensemble, the BCC Flute Ensemble, and the College Choir hold concerts throughout the year, both informally during the Common Hour and in concert settings with Winter and Spring Concerts.

## Student Behavior

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The following prohibitions pertaining to student conduct are considered essential to the educational mission and community life of the college. They apply to all situations &em; on or off campus &em; with College sponsorship.

- A. Use, possession, and/or distribution of weapons, firearms, firecrackers, explosives and/or chemicals.
- B. Use or possession of illegal or controlled drugs and/or alcohol.
- C. Gambling.
- D. Abusive and/or disorderly behavior.
- E. Deliberate destruction and/or abuse and misuse of College property or facilities.
- F. Theft from an individual, organization, or agency, and/or department of the College.
- G. Assault and battery, threats of violence, and/or intimidation.
- H. Violations of the College's Acceptable Use policy for computer access and use.
- I. Any conduct which violates the laws of the United States, the State of New York, Broome County, and/or the Town of Dickinson.

The above list of prohibitions is not a full listing of unacceptable behavior in a college community. Other unacceptable behavior, including, but not limited to, failure to comply with reasonable requests of a College representative, may also result in disciplinary action from the Vice President for Student Affairs (or his or her designee).

Academic dishonesty (such as cheating and plagiarism) or classroom behavior considered detrimental to the teaching-learning process will be addressed by the College's academic offices. A full statement on student academic dishonesty appears in the "Academic Information" section.

For further information about the College's Student Code of Conduct, please refer to the Student Handbook.

## Campus Safety

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Broome Community College is a safe campus which does its best to provide a secure environment where students can feel comfortable about learning without distraction.

Each year, Colleges and universities which receive state aid file campus crime statistics with the United States Department of Education. These statistics are available at <http://ope.ed.gov/security/>. In addition, The Advisory Committee on Campus Safety will provide, upon request, all campus crime statistics as reported to the United States Department of Education. This information is available through the Director of Campus Safety.



SUNY

Section 8



# State University of New York

The nation's largest and most comprehensive state university system, The State University of New York (SUNY), was founded at Potsdam, New York in 1816. Years later, the Morrill Act of 1862 led to the creation of four Ivy League land-grant SUNY colleges, which now currently exist at Cornell University. SUNY was officially established in February 1948 when New York became the 48th state, of the then 48 states, to create a state university system. SUNY initially represented a consolidation of 29 unaffiliated institutions, including 11 teachers colleges. All of these colleges, with their unique histories and backgrounds, united for a common goal: To serve New York State. Since 1948 SUNY has grown to include 64 individual colleges and universities that were either formerly independent institutions or directly founded by the State University of New York.

Today, the State University of New York's 64 geographically dispersed campuses bring educational opportunity within commuting distance of virtually all New Yorkers and comprise the nation's largest comprehensive system of public higher education. The State University of New York's 64 campuses are divided into four categories, based on educational mission, types of academic opportunities available and degrees offered. SUNY offers students a wide diversity of educational options including short-term vocational/technical courses, certificate, associate, and baccalaureate degree programs, graduate degrees and post-doctoral studies. SUNY provides access to almost every field of academic or professional study within the system via 7,669 degree and certificate programs.

SUNY students represent the society that surrounds them. In January 2008, 19.9% of all enrolled students were minorities. While SUNY students are predominantly New York State residents, representing every one of the state's 62 counties, they also hail from every other state in the United States, the District of Columbia, four U.S. territories, and 160 nations. SUNY enrolls 40% of all New York State high school graduates, and the total enrollment of 418,000 full-time and part-time students represents 37% of New York State's higher education student population. SUNY alumni number over 2.4 million graduates residing in New York State and throughout the world.

SUNY attracts the best and brightest scholars, scientists, artists and professionals and boasts nationally and internationally recognized faculty in all major disciplines. Faculty are regular recipients of prestigious awards and honors. SUNY colleges and universities range from world-renowned community colleges, such as the Fashion Institute of Technology, to first-rate graduate schools and the nation's top veterinary school. The highly-regarded doctoral degree granting universities are home to top research programs and attract experts in a variety of fields. Students study in campus classrooms and laboratories or work from a distance through the SUNY Learning Network, which provides educational opportunities to more than 70,000 students through 4,000 courses and 60 degree and certificate programs.

The State University of New York is committed to providing quality education at an affordable price to New Yorkers and students from across the country and the world.

# Colleges of SUNY

## Section 9



# Colleges of the State University of New York

- Community Colleges
- State-Operated Colleges
- Colleges of Arts and Sciences
- Colleges and Centers for the Health Sciences
- Colleges of Technology
- Specialized College
- Statutory Colleges
- State University of New York
- Board of Trustees

## Community Colleges

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*(Locally-sponsored, two-year colleges under the program of State University)*

Adirondack Community College at Glens Falls  
Broome Community College at Binghamton  
Cayuga County Community College at Auburn  
Clinton Community College at Plattsburgh  
Columbia-Greene Community College at Hudson  
Corning Community College at Corning  
Dutchess Community College at Poughkeepsie  
Erie Community College at Williamsville, Buffalo, and Orchard Park  
Fashion Institute of Technology of New York City  
Finger Lakes Community College at Canandaigua  
Fulton-Montgomery Community College at Johnstown  
Genesee Community College at Batavia  
Herkimer County Community College at Herkimer  
Hudson Valley Community College at Troy  
Jamestown Community College at Jamestown  
Jefferson Community College at Watertown  
Mohawk Valley Community College at Utica  
Monroe Community College at Rochester  
Nassau Community College at Garden City  
Niagara County Community College at Sanborn  
North Country Community College at Saranac Lake  
Onondaga Community College at Syracuse  
Orange County Community College at Middletown  
Rockland Community College at Suffern  
Schenectady County Community College at Schenectady  
Suffolk County Community College at Selden, Riverhead, and Brentwood  
Sullivan County Community College at Loch Sheldrake  
Tompkins Cortland Community College at Dryden  
Ulster County Community College at Stone Bridge  
Westchester Community College at Valhalla

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## State-Operated Colleges

### University Centers

State University of New York at Albany  
State University of New York at Binghamton  
State University of New York at Buffalo  
State University of New York at Stony Brook

### Colleges of Arts and Sciences

[^top](#)

State University College at Brockport  
State University College at Buffalo  
State University College at Cortland  
State University of New York Empire State College  
State University College at Fredonia  
State University College at Geneseo  
State University College at New Paltz  
State University College at Old Westbury  
State University College at Oneonta  
State University College at Oswego  
State University College at Plattsburgh  
State University College at Potsdam  
State University College at Purchase

### Colleges and Centers for the Health Sciences

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Downstate Medical Center  
Upstate Medical University  
SUNY State College of Optometry at New York City  
(Health Sciences Center at Buffalo) <sup>1</sup>  
(Health Sciences Center at Stony Brook) <sup>1</sup>

### Colleges of Technology

[^top](#)

State University of New York College of Technology at Alfred  
State University of New York College of Technology at Canton  
State University of New York College of Agriculture and Technology at Cobleskill  
State University of New York College of Technology at Delhi  
State University of New York College of Technology at Farmingdale  
State University of New York College of Agriculture and Technology at Morrisville  
State University of New York Institute of Technology at Utica

### Specialized College

[^top](#)

State University of New York College of Environmental Science and Forestry at Syracuse State  
University of New York Maritime College at Fort Schuyler

## Statutory Colleges

[^top](#)

New York State College of Agriculture and Life Sciences at Cornell University

New York State College of Ceramics at Alfred University

New York State College of Human Ecology at Cornell University

New York State College School of Industrial and Labor Relations at Cornell University

New York State College of Veterinary Medicine at Cornell University

## State University of New York

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Chancellor

Dr. Nancy L. Zimpher

Vice Chancellor and Chief Financial Officer

James R. Van Voorst

Vice Chancellor for Community Colleges

Dr. Dennis Golladay

Vice Chancellor and Secretary of the University; and President of the Research Foundation

John J. O'Connor

Provost and Vice Chancellor for Academic Affairs

Dr. Risa I. Palm

University Counsel and Vice Chancellor for Legal Affairs

Nicholas Rostow

Vice Chancellor for Government Relations

Michael C. Trunzo

Vice Chancellor for Capital Facilities

Philip W. Wood

## Office of the Secretary of the University

State University of New York, State University Plaza,  
Albany, New York 12246 (518)443-5157

## Board of Trustees

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Chair: Carl T. Haden  
Aminy I. Audi  
Robert J. Bellafiore  
Edward F. Cox  
Stephen J. Hunt  
H. Carl McCall  
Melody Mercedes (Student Trustee)  
Pedro Noguera  
Michael E. Russell  
Linda Sanford  
Carl Spielvogel  
Kay Stafford  
Harvey F. Wachsman  
Gerri Warren-Merrick  
Carl P. Wiezalis (Faculty Senate)

<sup>1</sup> The Health Sciences Centers at Buffalo and Stony Brook are operated under the administration of their respective University Centers.



# Divisions & Academic Departments

Section 10



## **Divisions & Academic Departments**

### **Business & Public Services Division**

#### **Business Department**

#### **Business Technology Department**

#### **Criminal Justice, Police/Fire Protection, Paramedic Department**

#### **Emergency Medical Technology Department**

### **Health Science Division**

#### **Clinical Laboratory Technologies Department**

#### **Dental Hygiene Department**

#### **Health Information Technology Department**

#### **Medical Assistant Department**

**Medical Technology Department**

**Nursing Department**

**Physical Therapist Assistant Department**

**Radiologic Technology Department**

**Liberal Arts Division**

**English Department**

**Fine & Media Arts Department**

**Foreign Languages, ESL, and Speech Department**

**History, Philosophy, and Social Sciences Department**

**Liberal Arts Department**

**Performing Arts Department**

**Physical Education Department**



**Psychology and Human Services Department**

**Teacher Education/Early Childhood Department**

**Science, Technologies, Engineering &  
Mathematics Division**

**Biology Department**

**Chemistry Department**

**Civil Engineering Technology Department**

**Computer Studies Department**

**Electrical Engineering Technology Department**

**Engineering Science and Physics Department**

**Mathematics Department**

**Mechanical Engineering Technology Department**



# Programs of Study

## Section 11





## Programs of Study

### Business & Public Services Division

#### Accounting: A.A.S.

##### *Associate in Applied Science*

The Accounting Program at Broome Community College is a sequence of courses in Accounting, Business, and Liberal Arts that leads to the Associate in Applied Science Degree (A.A.S.). The program is designed primarily to prepare the student for employment in the Accounting field immediately after graduation, although many students do transfer to four year schools.

The program is designed to be completed in two years by the full-time student. Students who wish to pursue part-time studies may do so. Schedules can be personalized to fit many needs including some courses being taught in the BCC College-on-the-Weekend program.

##### **Program supervised by:**

Rick Behr

Office: Business Building, Room B-108

Telephone: 607 778-5133

E-mail: behr\_r@sunybroome.edu

Pat O'Bryan

Office: Business Building, Room B-217

Telephone: 607 778-5175

E-mail: obryan\_p@sunybroome.edu

##### **See also: Financial Services**

#### FIRST YEAR

##### Fall Semester 17 Credits

- BUS 100 - Accounting I
- BUS 107 - The Freshman Experience
- BUS 112 - Quantitative Business Methods
- BUS 118 - Business Law I
- BUS 141 - Marketing
- ENG 110 - College Writing I

##### Spring Semester 17 Credits

- BUS 101 - Accounting II
- BUS 115 - Business Statistics
- BUS 120 - Business Law II
- CST 105 - Computer Applications
- MAT 117 - Elementary Finite Math w/Algebra

## SECOND YEAR

### Fall Semester 18 Credits

- Lab-Science Elective <sup>3</sup> Credits: 4
- Advisor Approved General Education Course <sup>2</sup> Credits: 3
- BUS 200 - Intermediate Accounting I  
See note 1
- BUS 210 - Managerial Accounting  
See note 1
- ECO 110 - Micro-Economics

### Spring Semester 18 Credits

- ENG Advisor Approved English Course Credits: 3
- BUS Elective Credits: 3  
See note 2  
(pick one elective from group below)
- BUS 201 - Intermediate Accounting II  
See note 1
- BUS 205 - Cost Accounting  
See note 1
- BUS 275 - Accounting Information Systems

### Electives

- BUS 135 - Investments
- BUS 188 - Income Tax I
- BUS 224 - Business Finance
- BUS 246 - Principles of Management
- BUS 262 - Small Business Management
- BUS 297 - Co-operative Work Experience

Total Credits: 70

### Notes

**NOTE:** This program can also be taken on a part time basis. Part-Time Studies

<sup>1</sup>Take these courses in the semester (spring or fall) indicated. They are not offered in all semesters.

<sup>2</sup>See Advisor: Non general education electives may be acceptable for students not transferring or transferring to non-SUNY colleges.

<sup>3</sup>Must be 4 credit lab science.

## **Business Administration: A.S.**

### *Associate in Science Transfer Program*

The Business Administration program at Broome Community College is a sequence of courses in Business, Liberal Arts, and Math/Science that leads to the Associate in Science degree. The program is designed primarily to prepare the student for transfer to four-year schools although some students do seek employment immediately after graduation. The BCC Department of Business has transfer agreements with many universities which ensure graduates of full Junior status at the upper division school. Students completing the program also have the option of continuing studies at Broome Community College to receive a Bachelor's degree through the New York State Excelsior College.

The program is designed to be completed in two years by the full-time student. Students who wish to pursue part-time studies may do so. Schedules can be personalized to fit many needs including the BCC College-on-the-Weekend program of study.

#### **Program supervised by:**

Rick Behr

Office: Business Building, Room B-108

Telephone: 607 778-5133

E-mail: behr\_r@sunybroome.edu

#### **Contact person:**

Pat O'Bryan

Office: Business Building, Room B-217

Telephone: 607 778-5175

E-mail: obryan\_p@sunybroome.edu

#### **See also: Management**

### **FIRST YEAR**

#### **Fall Semester 17 Credits**

- BUS 107 - The Freshman Experience
- BUS 111 - Financial Accounting
- BUS 112 - Quantitative Business Methods

See note 1

- BUS 118 - Business Law I
- BUS 141 - Marketing
- ENG 110 - College Writing I

### Spring Semester 16 Credits

- Free Elective <sup>2</sup> Credits: 3
- BUS 115 - Business Statistics
- BUS 120 - Business Law II
- BUS 210 - Managerial Accounting
- CST 105 - Computer Applications

## SECOND YEAR

### Fall Semester 17 Credits

- Advisor Approved General Education Course <sup>2</sup> Credits: 3
- Advisor Approved General Education Course <sup>2</sup> Credits: 3
- Lab Science Elective <sup>2</sup> Credits: 4
- PEDPhysical Education Credits: 1
- Free Elective <sup>2</sup> Credits: 3
- ECO 110 - Micro-Economics

### Spring Semester 15-16 Credits

- Advisor Approved General Education Course <sup>2 & 3</sup> Credits: 3
- ENG Advisor Approved ENG Course Credits: 3
- ECO 111 - Introduction to Macro-Economics
- MAT 136 - College Algebra and Trigonometry I  
See note 2  
or
- MAT 146 - Applied Business Calculus
- SOS 116 - International Business Environments

Total Credits: 65-66

### Notes

<sup>1</sup> Depending on Mathematics entrance testing scores and Math background, QBM or Principles of Management.

<sup>2</sup> Be certain to consult advisor when selecting electives.



<sup>3</sup> See Advisor: Non general education electives may be acceptable for students not transferring or transferring to non-SUNY colleges.

## **Business Information Management: A.A.S.**

### *Associate in Applied Science <sup>1</sup>*

Students who are interested in preparing for careers that require a solid foundation in business and technology would benefit from this program. Students will be able to plan a program of study that includes the skills and knowledge currently required for employment and takes into account the students' interests and abilities in those areas. The focus of this degree is to educate students in tools and techniques necessary to acquire, process, and manage information as it relates to one of the following areas of specialization: desktop publishing, website development and management or office technologies.

Two additional options are available for students who wish to obtain skills and knowledge in a particular field without committing to a full-time degree program: A 30-credit-state-approved certificate in each of the 4 areas of specialization – desktop publishing, web site development and management or office technologies.

**SEQUENCE OF COURSES:** This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be designed for those requiring preparatory courses or those deciding to pursue part-time study.

#### **Program supervised by:**

Sandra Wright

Office Business Building, Room 107

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E-mail: wright\_s@sunybroome.edu

#### **See also: Office Administration**

### **Desktop Publishing Emphasis**

#### **FIRST YEAR**

##### **Fall Semester 15 Credits**

- Social Science Elective <sup>2</sup> Credits: 3
- ART 112 - Beginning Photography
- BIT 173 - Basics of Website Creation
- BIT 245 - Electronic Page Layout using QuarkXpress
- ENG 110 - College Writing I

##### **Spring Semester 15 Credits**

- Lab Science Elective Credits: 3
- BIT/BUS Elective Credits: 3
- ART 125 - Introduction to Computer Graphics
- BIT 185 - Raster-Based Software Tools for Web/Print Publishers
- ENG 111 - College Writing II

## SECOND YEAR

### Fall Semester 18 Credits

- LA Elective Credits: 3
- Social Science Elective <sup>2</sup> Credits: 3
- BIT/BUS Elective Credits: 3
- BIT/BUS Elective Credits: 3
- BIT 240 - Desktop Publishing Using PageMaker
- BIT 285 - Vector-Based Software Tools

### Spring Semester 15 Credits

- MAT/SCI Elective Credits: 3
- BIT/BUS Elective Credits: 3
- BIT/BUS Elective Credits: 3
- 2 Electives from Approved List Credits: 6

### Approved Elective List

- ART Approved elective
- ART, BIT, BUS, CST, or COM elective with approval of advisor
- BIT 182 - Designing Effective Web Pages
- BIT 190 - Animation for the Electronic Media
- BIT 197W - Cooperative Work Experience
- BIT 265W - Project Management
- BUS 141 - Marketing

Total Credits: 63

Office Technologies Emphasis (one example)

## FIRST YEAR

## Fall Semester 15 Credits

- Social Science Elective <sup>2</sup> Credits: 3
- BIT 100 - Keyboarding
- BIT 110 - Business English
- BIT 260 - Introduction to Database Management
- ENG 110 - College Writing I

## Spring Semester 15 Credits

- Lab Science Elective Credits: 3
- BIT/BUS Elective Credits: 3
- BIT 130 - Word Processing Applications
- BIT 140W - Business Communication
- ENG 111 - College Writing II

## SECOND YEAR

### Fall Semester 18 Credits

- LA Elective Credits: 3
- Social Science Elective <sup>2</sup> Credits: 3
- BIT/BUS Elective Credits: 3
- BIT/BUS Elective Credits: 3
- BIT 200 - Spreadsheets with Business Applications
- BIT 250 - Integrated Microsoft Office

### Spring Semester 15 Credits

- MAT/SCI Elective Credits: 3
- BIT/BUS Elective Credits: 3
- BIT 275 - Advanced Business Communication
- BIT 280W - Office Administration
- BIT 297W - Internship

Total Credits: 63

Website Development and Management Emphasis

## FIRST YEAR

### Fall Semester 15 Credits

- Social Science Elective <sup>1</sup> Credits: 3
- 1 Elective from Website Development and Management Certificate Credits: 6
- BIT 173 - Basics of Website Creation
- BIT 185 - Raster-Based Software Tools for Web/Print Publishers
- ENG 110 - College Writing I

### Spring Semester 15 Credits

- Lab Science Elective Credits: 3
- BIT 182 - Designing Effective Web Pages
- BIT 285 - Vector-Based Software Tools
- BUS 190 - Marketing and the World Wide Web
- ENG 111 - College Writing II

## SECOND YEAR

### Fall Semester 18 Credits

- LA Elective Credits: 3
- Social Science Elective <sup>1</sup> Credits: 3
- 2 BIT/BUS Electives Credits: 6
- BIT 186 - Interactive Websites
- BIT 190 - Animation for the Electronic Media

### Spring Semester 15 Credits

- MAT/SCI Elective Credits: 3
- 1 BIT/BUS Elective Credits: 3
- 2 Electives from Website Development and Management Certificate Credits: 3
- BIM 150 - Understanding Electronic Commerce

Total Credits: 63

## Notes



## W - Writing Emphasis Course

Mathematics entrance score and Math background will determine math course placement.

Students should check with their advisors during the scheduling process to make sure courses are taken in proper sequence and any prerequisites have been met. Some flexibility is available as to when courses must be taken, but not all courses are offered every semester.

<sup>1</sup> **Certificates are available in Desktop Publishing, Office Technologies, and Website Development and Management, for students who complete a predetermined selection of courses on this page. Please contact the chairperson, above, for more information.**

<sup>2</sup> Advisor approved General Education Elective

## Business Skills: Certificate

### Certificate Program

The Business Skills Certificate provides opportunities for students to complete basic study in business with a concentration in a selected career skills area. The program is designed to provide students with timely and valuable employment skills in demand by employers.

Students may complete the program in one year, depending on the exact sequence of courses chosen or take longer if they wish. Courses are offered day, evening or online. Some courses are not offered every semester. All students must complete the core requirements below, and then complete at least an additional 15-credit concentration in their selected career skills area. With proper planning and advisement, students may be able to apply most of the credits earned towards an Associates degree in Business.

**Program Entrance Requirements:** Satisfactory completion of the writing, reading and mathematics placement test. Students may be required to take additional coursework in these areas depending on the placement test results.

#### **Program supervised by:**

Rick Behr

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Dominic DePersis

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Telephone: 607 778-5172

E-mail: [depersis\\_d@sunybroome.edu](mailto:depersis_d@sunybroome.edu)

### Core Degree Requirements

- BUS 109 - Workplace Readiness

- BUS 112 - Quantitative Business Methods
- BUS 118 - Business Law I
- BUS 141 - Marketing

Choose one of the following

- BUS 100 - Accounting I
- BUS 108 - Accounting for a Service Business
- BUS 111 - Financial Accounting

TOTAL CORE CREDITS 14

### Concentration In Accounting

*Choose 15 credits from the following:*

- BUS 101 - Accounting II
- BUS 188 - Income Tax I
- BUS 200 - Intermediate Accounting I
- BUS 205 - Cost Accounting
- BUS 210 - Managerial Accounting
- BUS 275 - Accounting Information Systems
- CST 105 - Computer Applications

TOTAL CERTIFICATE CREDITS 29-30

### Concentration In Customer Service

*Choose 15 credits from the following:*

- BUS 129 - Consumer Behavior
- BUS 152 - Selling Fundamentals
- BUS 214 - Customer Service
- BUS 267 - Retailing in a Service Economy
- BUS 269 - Business Reports and Computer Communications
- BUS 297 - Co-operative Work Experience

Choose one from the following:

- BUS 181 - The Internet with Business Applications
  - CST 105 - Computer Applications
- or

BIT Elective

TOTAL CERTIFICATE CREDITS 29

### Concentration In Financial Services

- BUS 131 - Personal Finance
- BUS 135 - Investments
- BUS 172 - NyS Life/Health Insurance Licensing
- BUS 183 - Securities Training Series (Series 6 and 63)

Choose one of the following

- BNK 184 - Banking/Real Estate/Mortgage Practicum
- BUS 184 - Financial and Risk Management Practicum

TOTAL CERTIFICATE CREDITS 29

### Concentration In Food Service Supervisor

- BHM 110 - Sanitation and Safety
- BHM 201 - Hotel/Restaurant Internship I
- BHM 216 - Quantity Food Production
- BHM 235 - Hotel and Restaurant Cost Control
- BUS 248 - Human Resource Management

TOTAL CERTIFICATE CREDITS 30

## **Criminal Justice-Corrections: A.S.**

### *Associate in Science Transfer Program*

This program is designed for full-time students desiring employment after two years of study in a corrections field as well as for students wishing to transfer to a four year college upon graduation from Broome Community College. The course of study includes a mixture of SUNY approved general education requirements, core criminal justice courses, and courses directly related to corrections. Students currently employed in corrections will also benefit from this course of study. Careful planning and selection of courses is necessary to complete the program in two years.

**SEQUENCE OF COURSES:** This model is a two-year course schedule for students meeting all program requirements and who decide to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study. Many students find it helpful to ease their course load during the school year by taking general education requirements during summer terms. Students placed into ENG 090 are required to take CRJ 102 before taking any other Criminal Justice Course.

**Program supervised by:**

Kathleen McKenna

Office: Business Building, Room 106

Telephone: 607 778-5139/607 778-5008

E-mail: mckenna\_k@sunybroome.edu

## FIRST YEAR

### Fall Semester 16 Credits

- CRJ 105 - Introduction to Corrections
- CRJ 111 - Administration of Justice
- ENG 110 - College Writing I
- MAT 124 - Statistics I
- PED 118 - Personal Fitness (CV) Or other PED cardiovascular course
- PSY 110 - General Psychology

### Spring Semester 15-16 Credits

- Laboratory Science Credits: 3-4
- CRJ 115 - Juvenile Justice System
- CRJ 205 - Correctional Law
- ENG 111 - College Writing II
- HIS 100 - The Rise of the West: 1500-Present

## SECOND YEAR

### Fall Semester 15 Credits

- Approved Social Science/Civic Education Credits: 3
- CRJ 125 - Criminal Law
- CRJ 235 - Corrections Administration
- HIS 130 - United States History I  
or
- HIS 131 - United States History II



## Spring Semester 15-16 Credits

- Approved Social Science Credits: 3
- Laboratory Science Credits: 3-4
- CRJ Elec. Approved Criminal Justice Elective Credits: 3
- CRJ 240 - Community Corrections
- ENG 220 - Communicating About Ideas and Values

## Approved Criminal Justice electives:

- ART 112 - Beginning Photography
- ASL 120 - American Sign Language I
- BIO 131 - Human Biology I
- BIT 100 - Keyboarding
- BIT 101 - Computer Keyboarding
- CHM 121 - Forensic Sciences
- COM 115 - Writing for the Media
- CRJ 130 - Introduction to Security
- CRJ 205 - Correctional Law
- CRJ 218 - Police Community Relations
- CRJ 225 - Security Administration
- CRJ 235 - Corrections Administration
- CRJ 240 - Community Corrections
- CRJ 260 - Organized Crime
- CST 105 - Computer Applications
- ENG 150 - Technical Writing
- FRS 105\* - Arson Investigation
- HLS 111 - Introduction to Homeland Security
- HLS 150 - Emergency Management
- HLS 200 - Theory and Practice of Terrorism
- HLS 210 - Special Security Issues
- LAW 225 - Family Law
- LAW 227 - Constitutional Law
- LAW 270 - Vehicle and Traffic Law
- LAW 280 - Litigation and Trial Preparation
- LAW 290 - Landlord-Tenant relations
- PSY 214 - Abnormal Psychology
- PSY 217 - Introduction to Counseling Theory and Practice
- PSY 223 - Human Exceptionality and Its Assessment
- PSY 227 - Learning and Behavior
- PSY 234 - Psychology of Addiction
- SPA 115 - Conversational Spanish for Law Enforcement
- SPK 110 - Effective Speaking

Recommended Science courses are:

- BIO 111 - General Biology I
- BIO 112 - General Biology II
- BIO 131 - Human Biology I
- BIO 132 - Human Biology II
- CHM 120 - Fundamental Chemistry
- CHM 121 - Forensic Sciences (Strongly recommended)
- PHS 111 - Earth Investigations
- PHS 112 - Investigations of the Natural World
- PHS 113 - Astronomy - Exploring the Universe
- PHS 114 - Meteorology: Investigating the Weather
- PHS 115 - Physical Geology: The Dynamic Earth
- PHS 116 - Global Warming: Energy and the Environment
- PHS 117 - Exploring Everyday Phenomena
- PHS 125 - Historical Geology: The History of Life and Planet Earth
- PHY 160 - Applied Physics-IS

Approved Physical Education courses (All cardiovascular courses are approved):

- PED 103 - Backpacking (CV)
  - PED 106 - Badminton (CV)
  - PED 107 - Ballet I (CV)
  - PED 110 - Basic Ice Skating (CV)
  - PED 118 - Personal Fitness (CV)
  - PED 119 - Personal Fitness (CV)
  - PED 127 - Jogging (CV)
  - PED 130 - Karate (CV)
  - PED 135 - Jazz Dance I (CV)
  - PED 137 - Jazz Dance II (CV)
  - PED 143 - Cross-Country Skiing (CV)
  - PED 144 - Aerobics (CV)
  - PED 146 - Aerobics (CV)
  - PED 147 - Soccer (Women) (CV)
  - PED 148 - Soccer (Men) (CV)
  - PED 169 - Tennis (CV)
  - PED 172 - Volleyball (CV)
  - PED 173 - Fitness Walking (CV)
- Or Varsity Sport

## Approved Social Science courses:

- POS 100-199 All Political Science courses
- SOS 100-199 All Social Science courses
- ECO 110 - Micro-Economics
- ECO 111 - Introduction to Macro-Economics
- GEO 120 - World Cultural Geography
- SOC 110 - Introduction to Sociology
- SOC 111 - Social Problems
- ANT 111 - Introduction to Cultural Anthropology
- BUS 116 - International Business Environments
- CRJ 245W - Criminology

## Approved Humanities, Arts, and Language courses:

### Humanities

- Any LIT course (Note: All LIT courses are Writing Emphasis Courses)
- Any PHI course *except* PHI 202
- ART 102 - History of Western Art I
- ART 103 - History of Western Art II
- ART 104 - History of Asian Art
- ART 108 - History of Architecture I
- ART 109 - History of Architecture II
- ART 110 - Modern Art
- ART 146 - History of Photography
- COM 145 - Contemporary Film Analysis
- COM 200 - Image Theory for Film, Photography, and Television
- HUM 101 - Western Humanities I
- HUM 102 - Western Humanities II
- HUM 103 - The Shock of the New: 20th Century Culture
- HUM 104 - Introduction to Classical Mythology
- MUS 101 - Introduction to Music
- MUS 108 - History of Music: Renaissance to 1800
- MUS 109 - Ragtime to rock: American Popular Music
- MUS 111 - 19th Century Music
- MUS 112 - 20th Century Music
- MUS 114 - History of Opera
- SPA 204 - Spanish Through Its Literature: A Contact Zone
- SPA 207 - Introduction to Latin American Literature: from the Conquest to Testimonial Narrative
- THR 102 - Introduction to Musical Theatre
- THR 221 - History of the Theater

- THR 222 - History of the Theater II

## Arts

- ART 102 - History of Western Art I
- ART 103 - History of Western Art II
- ART 104 - History of Asian Art
- ART 105 - Introduction to Two-Dimensional Design
- ART 106 - Introduction to Three-Dimensional Design
- ART 108 - History of Architecture I
- ART 109 - History of Architecture II
- ART 110 - Modern Art
- ART 111 - History of Decorative Arts: 1600-Present
- ART 112 - Beginning Photography
- ART 115 - Beginning Drawing
- ART 116 - Painting I
- ART 125 - Introduction to Computer Graphics
- ART 130 - Introduction to Ceramics: Construction and Glazes
- ART 140 - Printmaking
- COM 145 - Contemporary Film Analysis
- COM 200 - Image Theory for Film, Photography, and Television
- COM 205 - Introduction to Filmmaking
- ENG 170 - Creative Writing
- ENG 175 - Creative Writing with Publication
- MUS 101 - Introduction to Music
- MUS 105 - Music Theory I
- MUS 106 - Music Theory II
- MUS 108 - History of Music: Renaissance to 1800
- MUS 109 - Ragtime to rock: American Popular Music
- MUS 111 - 19th Century Music
- MUS 112 - 20th Century Music
- MUS 114 - History of Opera
- MUS 180 - Jazz Improvisation
- MUS 188 - Practical Music Theory for the Performing Musician
- PED 135 - Jazz Dance I (CV)
- PED 137 - Jazz Dance II (CV)
- THR 101 - Theater Appreciation: The Image Makers
- THR 102 - Introduction to Musical Theatre
- THR 109 - Practicum Theater
- THR 110 - Practicum Theater
- THR 111 - Introduction to Acting
- THR 112 - Acting II
- THR 114 - Oral Interpretation
- THR 117 - Creative Dramatics
- THR 151 - Technical Production I



- THR 152 - Technical Production II
- THR 161 - Playwriting
- THR 165 - Dance for Actors I
- THR 175 - Dance for Actors II

## Foreign Language

Any Foreign Language course above the 100 level.

Total Credits: 61-63

## Criminal Justice-Police: A.A.S.

### *Associate in Applied Science*

This program is designed for full-time students desiring employment after two years of study. Careful planning and selection of courses is necessary to complete the program in two years. Many students take advantage of summer terms to fill general education requirements. Consult the Criminal Justice Department Chair for specific details on selection of proper electives. Criminal Justice courses are described on page 122. Graduation from this program of study may now be completed at Broome Community College by completing all course requirements during the day.

The program also is designed to meet the needs of students wishing to transfer to a four-year degree program upon graduation from Broome Community College.

Students entering Criminal Justice must understand that most law enforcement agencies have physical, psychological, and medical fitness standards, and require a background free of felony and serious misdemeanor convictions. In some cases, juvenile delinquency adjudications may exclude a person from employment in any level of law enforcement.

This course of study is not intended for prospective law school students.

**SEQUENCE OF COURSES:** This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study. Students placed into ENG 090 are required to take CRJ 102 before taking any other Criminal Justice course.

### **Program supervised by:**

Kathleen McKenna

Office: Business Building, Room 106

Telephone: 607 778-5139/607 778-5008

E-mail: mckenna\_k@sunybroome.edu

## FIRST YEAR

## Fall Semester 16 Credits

- CRJ 111 - Administration of Justice
- CRJ 115 - Juvenile Justice System
- ENG 110 - College Writing I
- MAT 113 - Mathematical Explorations I  
See note #
- PED 118 - Personal Fitness (CV) Or other approved PED cardiovascular course
- PSY 110 - General Psychology

## Spring Semester 15-16 Credits

- Approved Laboratory Science Credits: 3-4
- CRJ 125 - Criminal Law
- ENG 111 - College Writing II
- HIS 100 - The Rise of the West: 1500-Present

## SECOND YEAR

### Fall Semester 16 Credits

- Approved Social Science/Civic Education Credits: 3
- Humanities/Arts/Foreign Language/Philosophy Credits: 3
- CRJ 230 - Criminal Investigation
- CRJ 245W - Criminology
- HIS 130 - United States History I  
or
- HIS 131 - United States History II

### Spring Semester 15 Credits

- CRJ Elec. Approved Criminal Justice Elective Credits: 3
- CRJ Elec. Approved Criminal Justice Elective Credits: 3
- Approved Social Science Credits: 3
- CRJ 215 - Police Administration
- ENG 220 - Communicating About Ideas and Values

### Approved Criminal Justice electives:

- ART 112 - Beginning Photography

- ASL 120 - American Sign Language I
- BIO 131 - Human Biology I
- BIT 100 - Keyboarding
- BIT 101 - Computer Keyboarding
- CHM 121 - Forensic Sciences
- COM 115 - Writing for the Media
- CRJ 130 - Introduction to Security
- CRJ 205 - Correctional Law
- CRJ 218 - Police Community Relations
- CRJ 225 - Security Administration
- CRJ 235 - Corrections Administration
- CRJ 240 - Community Corrections
- CRJ 260 - Organized Crime
- CST 105 - Computer Applications
- ENG 150 - Technical Writing
- FRS 105\* - Arson Investigation
- HLS 111 - Introduction to Homeland Security
- HLS 150 - Emergency Management
- HLS 200 - Theory and Practice of Terrorism
- HLS 210 - Special Security Issues
- LAW 225 - Family Law
- LAW 227 - Constitutional Law
- LAW 270 - Vehicle and Traffic Law
- LAW 280 - Litigation and Trial Preparation
- LAW 290 - Landlord-Tenant relations
- PSY 214 - Abnormal Psychology
- PSY 217 - Introduction to Counseling Theory and Practice
- PSY 223 - Human Exceptionality and Its Assessment
- PSY 227 - Learning and Behavior
- PSY 234 - Psychology of Addiction
- SPA 115 - Conversational Spanish for Law Enforcement
- SPK 110 - Effective Speaking

#### Recommended Science courses are:

- BIO 111 - General Biology I
- BIO 112 - General Biology II
- BIO 131 - Human Biology I
- BIO 132 - Human Biology II
- CHM 120 - Fundamental Chemistry
- CHM 121 - Forensic Sciences (Strongly recommended)
- PHS 111 - Earth Investigations
- PHS 112 - Investigations of the Natural World
- PHS 113 - Astronomy - Exploring the Universe
- PHS 114 - Meteorology: Investigating the Weather

- PHS 115 - Physical Geology: The Dynamic Earth
- PHS 116 - Global Warming: Energy and the Environment
- PHS 117 - Exploring Everyday Phenomena
- PHS 125 - Historical Geology: The History of Life and Planet Earth
- PHY 160 - Applied Physics-IS

Approved Physical Education courses (All cardiovascular courses are approved):

- PED 103 - Backpacking (CV)
- PED 106 - Badminton (CV)
- PED 107 - Ballet I (CV)
- PED 110 - Basic Ice Skating (CV)
- PED 118 - Personal Fitness (CV)
- PED 119 - Personal Fitness (CV)
- PED 127 - Jogging (CV)
- PED 130 - Karate (CV)
- PED 135 - Jazz Dance I (CV)
- PED 137 - Jazz Dance II (CV)
- PED 143 - Cross-Country Skiing (CV)
- PED 144 - Aerobics (CV)
- PED 146 - Aerobics (CV)
- PED 147 - Soccer (Women) (CV)
- PED 148 - Soccer (Men) (CV)
- PED 169 - Tennis (CV)
- PED 172 - Volleyball (CV)
- PED 173 - Fitness Walking (CV)

Approved Social Science courses:

- POS 100-999 All Political Science Courses
- SOS 100-999 All Social Science Courses
- ECO 110 - Micro-Economics
- ECO 111 - Introduction to Macro-Economics
- GEO 120 - World Cultural Geography
- SOC 110 - Introduction to Sociology
- SOC 111 - Social Problems
- ANT 111 - Introduction to Cultural Anthropology
- BUS 116 - International Business Environments
- CRJ 245W - Criminology

Approved Humanities, Arts, and Language courses:



## Humanities

- Any LIT course (Note: All LIT courses are Writing Emphasis Courses)
- Any PHI course *except* PHI 202
- ART 102 - History of Western Art I
- ART 103 - History of Western Art II
- ART 104 - History of Asian Art
- ART 108 - History of Architecture I
- ART 109 - History of Architecture II
- ART 110 - Modern Art
- ART 146 - History of Photography
- COM 145 - Contemporary Film Analysis
- COM 200 - Image Theory for Film, Photography, and Television
- HUM 101 - Western Humanities I
- HUM 102 - Western Humanities II
- HUM 103 - The Shock of the New: 20th Century Culture
- HUM 104 - Introduction to Classical Mythology
- MUS 101 - Introduction to Music
- MUS 108 - History of Music: Renaissance to 1800
- MUS 109 - Ragtime to rock: American Popular Music
- MUS 111 - 19th Century Music
- MUS 112 - 20th Century Music
- MUS 114 - History of Opera
- SPA 204 - Spanish Through Its Literature: A Contact Zone
- SPA 207 - Introduction to Latin American Literature: from the Conquest to Testimonial Narrative
- THR 102 - Introduction to Musical Theatre
- THR 221 - History of the Theater
- THR 222 - History of the Theater II

## Arts

- ART 102 - History of Western Art I
- ART 103 - History of Western Art II
- ART 104 - History of Asian Art
- ART 105 - Introduction to Two-Dimensional Design
- ART 106 - Introduction to Three-Dimensional Design
- ART 108 - History of Architecture I
- ART 109 - History of Architecture II
- ART 110 - Modern Art
- ART 111 - History of Decorative Arts: 1600-Present
- ART 112 - Beginning Photography
- ART 115 - Beginning Drawing

- ART 116 - Painting I
- ART 125 - Introduction to Computer Graphics
- ART 130 - Introduction to Ceramics: Construction and Glazes
- ART 140 - Printmaking
- COM 145 - Contemporary Film Analysis
- COM 200 - Image Theory for Film, Photography, and Television
- COM 205 - Introduction to Filmmaking
- ENG 170 - Creative Writing
- ENG 175 - Creative Writing with Publication
- MUS 101 - Introduction to Music
- MUS 105 - Music Theory I
- MUS 106 - Music Theory II
- MUS 108 - History of Music: Renaissance to 1800
- MUS 109 - Ragtime to rock: American Popular Music
- MUS 111 - 19th Century Music
- MUS 112 - 20th Century Music
- MUS 114 - History of Opera
- MUS 180 - Jazz Improvisation
- MUS 188 - Practical Music Theory for the Performing Musician
- PED 135 - Jazz Dance I (CV)
- PED 137 - Jazz Dance II (CV)
- THR 101 - Theater Appreciation: The Image Makers
- THR 102 - Introduction to Musical Theatre
- THR 109 - Practicum Theater
- THR 110 - Practicum Theater
- THR 111 - Introduction to Acting
- THR 112 - Acting II
- THR 114 - Oral Interpretation
- THR 117 - Creative Dramatics
- THR 151 - Technical Production I
- THR 152 - Technical Production II
- THR 161 - Playwriting
- THR 165 - Dance for Actors I
- THR 175 - Dance for Actors II

## Foreign Language

Any Foreign Language course above the 100 level. -

## Notes

Two writing emphasis courses (w) are required after completing ENG 110 and at least one before enrolling in ENG 220.

# Mathematics courses are by placement test; students usually take MAT 113, 114, 124 or 136. (Developmental math may be necessary but is not creditable toward degree.) MAT 113 and MAT 114 meet graduation requirements for BCC. Students wishing to transfer to a four-year school are strongly

encouraged to complete the sequence MAT 115/116 (Mathematics for General Education), or MAT 124 (Statistics) and/or MAT 136 (College Algebra and Trigonometry).

**Note:** Courses taken at a state-approved police academy will be reviewed for credit on an individual basis.

Total Credits: 62-63

## Emergency Medical Technology/Paramedic: A.A.S.

### *Associate in Applied Science (AAS)*

The Southern Tier Paramedic Program (STPP) is a joint venture of Lourdes Hospital and Broome Community College (BCC). The STPP mission is to provide the community with outstanding paramedics in a timely and affordable manner. Offered are an associate degree (AAS) and the opportunity to sit for the NYS examination for certification as an Emergency Medical Technician-Paramedic (EMT-P). Students are also eligible to sit for the National Registry examination.

The STPP curriculum is segmented into small courses. Courses are scheduled afternoons and evenings, meeting three times a week. The standard program spans five terms. Qualified students, with the approval of the Program Director may design a customized full-time or part-time program. NYS Paramedic certification can be achieved in 12 months.

In this segmentation, material pertaining to NYS certification as an EMT-CC (Critical Care) is grouped as the PMD 210 series, and material unique to EMT-P (Paramedic) is grouped as the PMD 220 series. This permits students on a part-time track to obtain EMT-CC certification about halfway through the program. It also enables a Bridge Track for students already possessing EMT-CC credentials.

Program supervised by:

Harold H. Trimm, Ph.D.

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Paramedic Program Administrator

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The Southern Tier Paramedic Program (S.T.P.P.) is a collaborative effort between Broome Community College, Lourdes Hospital and United Health Services. Lourdes Hospital is the N.Y.S. Department of Health, Bureau of Emergency Services Training Sponsor.

### **Prerequisites:**

Prior to admission a student must:

1. have a high school diploma or an equivalent;

2. apply and be admitted to Broome Community College;
3. submit a completed paramedic program application;

*Prior to starting the Paramedic Course sequence a student must have:*

1. taken a NYS Basic EMT- level written and practical examination; pass, & maintain it during the program.
2. submitted two letters of recommendation.
3. successfully completed an interview
4. a minimum of 1 year of EMT crew-chief experience or be successfully completing a min. of 70 hours of BLS ambulance clinical time.
5. completed BIO 101 or 131 & 132 prior to or concurrently with PMD 201 & PMD 202.

**Admission to the College and finishing General Education requirements does not guarantee acceptance to the S.T.P.P.**

## FIRST YEAR

### Fall Semester 15 Credits

- BIO 101 - Introduction to Anatomy and Physiology  
(non-degree students only)
- BIO 131 - Human Biology I
- BIT 101 - Computer Keyboarding
- PMD 211 & 211L - Foundation in Advanced Prehospital Care
- PMD 221 & 221L - Paramedic Foundations and Comprehensive Physical Exam

### Spring Semester 17 Credits

- BIO 132 - Human Biology II  
(required if BIO 131 was completed)
- ENG 110 - College Writing I
- PMD 212 & 212L - Advanced Prehospital Care of Cardiovascular & Special Population Patients
- PMD 222 & 222L - Paramedic Care of Cardiovascular & Special Patient Populations

## SECOND YEAR

### Fall Semester 16 Credits

- Civic Elective Credits: 3
- PMD 213 & 213L - Advanced Prehospital Trauma Care
- PMD 223 & 223L - Paramedic Trauma Care
- PSY 110 - General Psychology

### Spring Semester 16 Credits



- ENG 220 - Communicating About Ideas and Values
- MAT 113 - Mathematical Explorations I
- PMD 214 & 214L - Advanced Prehospital Care of Medical Emergencies
- PMD 224 & 224L - Paramedic Care of Medical Emergencies

## Summer Semester 8 Credits

- PMD 215 & 215L - Advance Prehospital Operations and Integrated Care
- PMD 225 & 225L - Paramedic Operations, Pediatric Emergencies, Integrated Care

## GRADUATION REQUIREMENTS: 72 CREDITS

### Note

Successful completion of core paramedic curriculum is required to be eligible to take the New York State and National Registry written and practical examinations.

## Entrepreneurship: Certificate

### Certificate Program

The certificate program is designed to prepare prospective entrepreneurs to launch new ventures by educating them in the fundamentals of starting and operating their own business. For entrepreneurs who already have an established business, the program will help them strengthen their business and managerial skills

Students may complete the program in two semesters. Students should check with their advisor during the scheduling process to make sure courses are taken in proper sequence and any prerequisites have been met. Some flexibility is available as to when courses must be taken, but not all courses are offered every semester. Students will be able to apply the credits earned towards an AAS degree in Marketing/Management/Sales.

**Program Entrance Requirements:** Satisfactory completion of the writing, reading and mathematics placement test. Students may be required to take additional coursework in these areas depending on the placement test results.

#### **Program supervised by:**

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Dominic DePersis

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## First Semester

- BUS 108 - Accounting for a Service Business
- BUS 113 - Introduction to Entrepreneurship
- BUS 114 - Entrepreneurship Law
- BUS 141 - Marketing

## Second Semester

- BIT 140W - Business Communication
- BUS 152 - Selling Fundamentals
- BUS 213 - Business Plan Development
- BUS 229 - Advertising
- BUS 246 - Principles of Management

Total Credits 30

## Financial Services: A.A.S.

### *Associate in Applied Science*

The Financial Services program combines business and financial courses leading to an Associate in Applied Science degree. The degree prepares the student for immediate employment in banks and other financial institutions. Selected courses provide prelicensing preparation for New York State or Federal licensing exams in Life, Accident, and Health Insurance, Real Estate for Salespersons and Securities Training (Series 6 and 63).

### **Program supervised by:**

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## FIRST YEAR

## Fall Semester 17 Credits

- BUS 107 - The Freshman Experience
- BUS 111 - Financial Accounting
- BUS 112 - Quantitative Business Methods
- BUS 118 - Business Law I
- BUS 141 - Marketing
- ENG 110 - College Writing I

## Spring Semester 16 Credits

- BNK 168 - Principles of Banking
- BUS 120 - Business Law II
- BUS 131 - Personal Finance
- BUS 210 - Managerial Accounting
- MAT 113 - Mathematical Explorations I  
or higher MAT

## SECOND YEAR

### Fall Semester 17 Credits

- Math **or** Science Elective Credits: 3
- BUS 135 - Investments
- BUS 152 - Selling Fundamentals
- BUS 172 - NyS Life/Health Insurance Licensing
- ECO 110 - Micro-Economics
- SPK 110 - Effective Speaking  
or Humanities Elective

### Spring Semester 19-20 Credits

- ENG Advisor approved ENG course Credits: 3
- An advisor-approved computer elective Credits:3  
(Choose from list below)
- BUS 183 - Securities Training Series (Series 6 and 63)
- BUS 184 - Financial and Risk Management Practicum
- ECO 111 - Introduction to Macro-Economics

## Additional Requirements

Choose one from the following

- Banking or Business Elective Credits: 3
- BNK 184 - Banking/Real Estate/Mortgage Practicum
- BUS 163 - Real Estate for Salespersons

### Advisor-approved computer elective

- Advisor approved CST course  
or
- Approved BIT courses  
or
- BUS 181 - The Internet with Business Applications
- CST 105 - Computer Applications
- CST 158 - Spreadsheets With Financial Applications

### Note

Students should check with their advisors during the scheduling process to make sure courses are taken in proper sequence and any prerequisites have been met. Some flexibility is available as to when courses must be taken, but not all courses are offered every semester.

Total Credits: 69-70

## Fire Protection Technology: A.S.

*Associate in Applied Science*

### For Part-Time Students

The Fire Protection Technology Program is designed to provide fire fighters and related fire service personnel with specialized training. The curriculum has been developed by a local advisory committee to meet the needs of the area, and specialized courses as well as general education courses constitute the degree program. Specialized courses include Fire Fighter Tactics and Strategy, Arson Investigation, Hydraulics, Hazardous Materials, Fire Prevention, and Building Construction.

**SUGGESTED SEQUENCE FOR FULL-TIME STUDENTS:** Students may select courses from any of the categories, but it is suggested that these sequences be followed to ensure that the proper prerequisites have been completed.

Program supervised by:

Kathleen McKenna

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E-mail: mckenna\_k@sunybroome.edu



## FIRST YEAR

### Fall Semester 16 Credits

- ENG 110 - College Writing I
- FRS 103\* - Fire Fighting Tactics and Strategy
- FRS 110\* - Computers in the Fire Service
- MAT 113 - Mathematical Explorations I  
See note #
- PED 118 - Personal Fitness (CV) Or other approved PED cardiovascular course
- PSY 110 - General Psychology

### Spring Semester 15-16 Credits

- Approved Lab Science Credits: 3-4
- ENG 111 - College Writing II
- FRS 101\* - Fire Prevention and Protection
- FRS 107\* - Legal Aspects of the Fire Service
- HIS 100 - The Rise of the West: 1500-Present

## SECOND YEAR

### Fall Semester 15 Credits

- Approved Social Science/Civic Educ Credits: 3
- Approved Humanities/Arts Credits: 3
- FRS 108\* - Building Construction for Fire Science
- FRS 201\* - Fire Service Hydraulics
- HIS 130 - United States History I  
or
- HIS 131 - United States History II

### Spring Semester 18-19 Credits

- Approved Social Science Credits: 3
- Approved Laboratory Science Credits: 3-4
- ENG 220 - Communicating About Ideas and Values
- FRS 105\* - Arson Investigation
- FRS 204 - Protection and Suppression Systems
- FRS 205\* - Fire Department Administration

## Recommended Electives

### Chemistry:

Suggest the following:

- CHM 120 - Fundamental Chemistry
- CHM 121 - Forensic Sciences
- CHM 125 - Chemistry (designed for firefighters)

### Mathematics:

Suggest the following:

- MAT 124 - Statistics I
- MAT 136 - College Algebra and Trigonometry I  
or as dictated by placement test.

### Social Sciences:

- POS 100-199 All Political Science courses
- SOS 100-199 All Social Science courses
- ECO 110 - Micro-Economics
- ECO 111 - Introduction to Macro-Economics
- GEO 120 - World Cultural Geography
- SOC 110 - Introduction to Sociology
- SOC 111 - Social Problems
- ANT 111 - Introduction to Cultural Anthropology
- BUS 116 - International Business Environments
- CRJ 245W - Criminology

### Fire Protection Courses:

Select from:

- FRS 101\* - Fire Prevention and Protection
- FRS 103\* - Fire Fighting Tactics and Strategy
- FRS 105\* - Arson Investigation
- FRS 107\* - Legal Aspects of the Fire Service
- FRS 108\* - Building Construction for Fire Science
- FRS 110\* - Computers in the Fire Service
- FRS 200\* - Hazardous Materials
- FRS 201\* - Fire Service Hydraulics

- FRS 204 - Protection and Suppression Systems
- FRS 205\* - Fire Department Administration
- FRS 250\* - Special Topics
- FRS 299\* - Independent Study: Fire Service

## Approved Humanities, Arts, and Language courses:

- BUS 110 - Introduction to Business
- BUS 118 - Business Law I
- BUS 141 - Marketing
- BUS 245 - Management: A Behavioral Approach
- BUS 246 - Principles of Management
- BUS 248 - Human Resource Management

## Humanities

- ART 102 - History of Western Art I
- ART 103 - History of Western Art II
- ART 104 - History of Asian Art
- ART 108 - History of Architecture I
- ART 109 - History of Architecture II
- ART 110 - Modern Art
- ART 146 - History of Photography
- COM 145 - Contemporary Film Analysis
- COM 200 - Image Theory for Film, Photography, and Television
- HUM 101 - Western Humanities I
- HUM 102 - Western Humanities II
- HUM 103 - The Shock of the New: 20th Century Culture
- HUM 104 - Introduction to Classical Mythology
- MUS 101 - Introduction to Music
- MUS 108 - History of Music: Renaissance to 1800
- MUS 109 - Ragtime to rock: American Popular Music
- MUS 111 - 19th Century Music
- MUS 112 - 20th Century Music
- MUS 114 - History of Opera
- SPA 204 - Spanish Through Its Literature: A Contact Zone
- SPA 207 - Introduction to Latin American Literature: from the Conquest to Testimonial Narrative
- THR 102 - Introduction to Musical Theatre
- THR 221 - History of the Theater
- THR 222 - History of the Theater II

## Arts

- ART 102 - History of Western Art I
- ART 103 - History of Western Art II
- ART 104 - History of Asian Art
- ART 105 - Introduction to Two-Dimensional Design
- ART 106 - Introduction to Three-Dimensional Design
- ART 108 - History of Architecture I
- ART 109 - History of Architecture II
- ART 110 - Modern Art
- ART 111 - History of Decorative Arts: 1600-Present
- ART 112 - Beginning Photography
- ART 115 - Beginning Drawing
- ART 116 - Painting I
- ART 125 - Introduction to Computer Graphics
- ART 130 - Introduction to Ceramics: Construction and Glazes
- ART 140 - Printmaking
- COM 145 - Contemporary Film Analysis
- COM 200 - Image Theory for Film, Photography, and Television
- COM 205 - Introduction to Filmmaking
- ENG 170 - Creative Writing
- ENG 175 - Creative Writing with Publication
- MUS 101 - Introduction to Music
- MUS 105 - Music Theory I
- MUS 106 - Music Theory II
- MUS 108 - History of Music: Renaissance to 1800
- MUS 109 - Ragtime to rock: American Popular Music
- MUS 111 - 19th Century Music
- MUS 112 - 20th Century Music
- MUS 114 - History of Opera
- MUS 180 - Jazz Improvisation
- MUS 188 - Practical Music Theory for the Performing Musician
- PED 135 - Jazz Dance I (CV)
- PED 137 - Jazz Dance II (CV)
- THR 101 - Theater Appreciation: The Image Makers
- THR 102 - Introduction to Musical Theatre
- THR 109 - Practicum Theater
- THR 110 - Practicum Theater
- THR 111 - Introduction to Acting
- THR 112 - Acting II
- THR 114 - Oral Interpretation
- THR 117 - Creative Dramatics
- THR 151 - Technical Production I
- THR 152 - Technical Production II



- THR 161 - Playwriting
- THR 165 - Dance for Actors I
- THR 175 - Dance for Actors II

## Foreign Language

Any Foreign Language course above the 100 level, *except* SPA 115.

## Electives:

Courses with FRS, MAT designators, CHM 121 or CHM 125, or other courses with permission.

## Notes

\*8 credits of EMT 110 may be substituted for 6 credits of Fire Protection courses.

#MAT 113 and MAT 114 meet graduation requirements for BCC. Students wishing to transfer to a four-year school are strongly encouraged to complete the sequence MAT 115/116 Mathematics for General Education, or MAT 124, Statistics, or MAT 136, College Algebra and Trigonometry.

Students must fulfill General Education Requirements. **[Courses taken at the New York State Fire Academy at Montour Falls will be reviewed for credit on an individual basis using the credit by exam policy.]**

W - Writing Emphasis Course: Two are required after ENG 110 and before ENG 220

Fire Protection courses are offered on a rotation system. Each course is usually offered once every three to four semesters.

## Homeland Security: A.S.

Homeland Security is one of the fastest growing fields in the area of security and law enforcement. The concept of homeland security encompasses more than enforcing local, state, and federal laws; it also includes recognition of the fact that many issues cross typical job-function boundaries. It involves hazard prevention and mitigation, safeguarding infrastructure assets, and protection of private sector interests. While most people think of homeland security in terms of responding to terrorism, the responsibility of this function is much broader and encompasses areas of emergency management as well as the typical safety, security, and policing functions. This degree is designed both to allow students to enter the workforce after graduation, and to prepare themselves for transfer to a four-year college or university, and thus eventually to move into management in the field.

### SEQUENCE OF COURSES:

This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.

### Program supervised by:

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## FIRST YEAR

### Fall Semester 17 Credits

- PED (CV) Physical Education (Cardiovascular)
- CHM 121 - Forensic Sciences
- ENG 110 - College Writing I
- HIS 130 - United States History I
- Or
- HIS 131 - United States History II
- HLS 111 - Introduction to Homeland Security
- PSY 110 - General Psychology

### Spring Semester 16 Credits

- CRJ 230 - Criminal Investigation
- CRJ 245W - Criminology
- ENG 111 - College Writing II
- FRS 200\* - Hazardous Materials
- HIS 116 - The West and the World to 1500

## SECOND YEAR

### Fall Semester 15-16 Credits

- CRJ 212W - Criminal Procedure and Constitutional Law
- HIS 117 - The West and the World Since 1500
- HLS 150 - Emergency Management
- HLS 200 - Theory and Practice of Terrorism
- MAT 124 - Statistics I
- Or
- MAT 136 - College Algebra and Trigonometry I

### Spring Semester 17 Credits

- EMT 110 - Basic Emergency Medical Technician
- ENG 220 - Communicating About Ideas and Values
- HLS 210 - Special Security Issues
- POS 204 - American State and Local Government

## GRADUATION REQUIREMENTS: 65-66 CREDITS

### Hotel/Restaurant Management: A.A.S.

#### *Associate in Applied Science*

The Hotel/Restaurant Management program is a planned sequence of college level courses leading to the Associate in Applied Science degree. Hotel/Restaurant Management emphasizes business theory and application of industry-specific methods to prepare the student for immediate employment; however, some students decide to transfer to an upper division school.

Graduates of the Hotel/Restaurant Management program are employed in a variety of positions within food and hotel facilities, both in the local area and worldwide. Their responsibilities vary depending upon the position. Graduates have found opportunities in hotel front office management, food and beverage management, and sales and marketing.

The program may require more than two years to complete depending on a student's academic background. The department will tailor a program assuring each student the opportunity to earn the A.A.S. degree in Hotel/Restaurant Management.

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## FIRST YEAR

### Fall Semester 17 Credits

- BUS 107 - The Freshman Experience
- BUS 108 - Accounting for a Service Business
- BUS 112 - Quantitative Business Methods  
See note 1
- BUS 118 - Business Law I
- BUS 141 - Marketing
- ENG 110 - College Writing I  
See note 5

## Spring Semester 16-17 Credits

- <sup>4</sup>An advisor-approved computer elective Credits: 3  
(Choose from list below)
- BUS 229 Advertising <sup>4</sup>  
OR
- BUS 152 Selling Fundamentals Credits: 3
- BHM 110 - Sanitation and Safety  
See note 2
- BHM 125W - Hospitality Law  
See note 2
- BHM 235 - Hotel and Restaurant Cost Control  
See note 2

## SECOND YEAR

### Fall Semester 17 Credits

- BHM 201 - Hotel/Restaurant Internship I  
See note 3
- BHM 216 - Quantity Food Production  
See note 2
- BHM 230 - Front Office Operations Management  
See note 2
- BUS 248 - Human Resource Management

### Additional Requirements

Choose one from the following

- BIO 121 - Basic Nutrition

### Spring Semester 19 Credits

- Social Science Elective Credits: 3 -
- ENG Advisor approved ENG elective Credits: 3
- <sup>4</sup> Math/Science Elective Credits: 4
- BHM 275 - Hospitality Catering and Community Service
- BHM 297 - Hotel/Restaurant Internship II  
See note 3
- ECO 110 - Micro-Economics



Total Credits: 69-70

## Notes

<sup>1</sup>Depending on Mathematics entrance testing scores and math background, the student will take: MAT 090 and QBM or QBM.

<sup>2</sup>Take these courses in the semester (fall or spring) indicated. They are not offered in all semesters.

<sup>3</sup>One Internship must be taken and/or completed during the summer in order to complete the degree in two years.

<sup>4</sup>CST 105 or 158, BUS 181, or three approved BIT 1.0 credit modules.

## International Business: A.S.

### *Associate in Science Transfer Program*

The Business Administration program in International Business is a sequence of courses with a global emphasis in Business and Liberal Arts that leads to the Associate in Science degree. The program is designed primarily to prepare the student for transfer to four-year schools although some students do seek employment immediately after graduation. The BCC Department of Business has transfer agreements with many universities which ensure graduates full junior status at the upper division school. Credits earned in the International Business major easily transfer to four-year colleges and students may continue their studies in International Business or other Business and non-business majors.

The program is designed to be completed in two years of full-time study. However, students who wish to pursue part-time studies may do so. Schedules can be personalized to fit many needs including day, evening, weekend, and distance learning classes.

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### **Contact person:**

Michael Kuryla

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## FIRST YEAR

Fall Semester 17 Credits

- BUS 107 - The Freshman Experience
- BUS 111 - Financial Accounting
- BUS 112 - Quantitative Business Methods  
See note 1
- BUS 118 - Business Law I
- BUS 141 - Marketing
- ENG 110 - College Writing I

### Spring Semester 16 Credits

- <sup>2</sup>Foreign Language Elective Credits: 3
- BUS 115 - Business Statistics
- BUS 120 - Business Law II
- BUS 210 - Managerial Accounting
- CST 105 - Computer Applications

## SECOND YEAR

### Fall Semester 17 Credits

- <sup>3</sup>Advisor Approved General Education Course Credits: 3
- <sup>2</sup>Lab Science Elective Credits: 4
- <sup>2</sup>Foreign Language Elective Credits: 3
- PED Physical Education Credit: 1
- ECO 110 - Micro-Economics
- SOS 116 - International Business Environments

### Spring Semester 15-16 Credits

- <sup>3</sup>International Elective or Foreign Arts Elective Credits: 3
- ENG Advisor Approved ENG Course Credits: 3
- BUS 216 - Special Topics in International Business  
or
- BUS 246 - Principles of Management
- ECO 111 - Introduction to Macro-Economics -
- MAT 136 - College Algebra and Trigonometry I  
or
- MAT 146 - Applied Business Calculus

Total Credits: 65-66

## Notes

<sup>1</sup>Depending on Mathematics entrance score and Math background, QBM or Principles of Management.

<sup>2</sup>Be certain to consult advisor when selecting electives.

<sup>3</sup>Overseas Study Program, HIS 100, HUM 101, HUM 102, ART 102, ART 104, or other advisor approved general education course.

<sup>4</sup>See Advisor: Non general education electives may be acceptable for students not transferring or transferring to non-SUNY colleges.

## Management: A.S.

### *Associate in Science Transfer Program*

The Management program is a sequence of courses in Management, General Business and Liberal Arts that leads to the Associate in Science degree. The program offers the opportunity for transfer to four-year schools to continue study in Business or other majors, as well as employment possibilities for students who choose to enter the workforce upon graduation.

The program is designed to be completed in two years of full-time study. However, students who wish to pursue part-time studies may do so. Schedules can be personalized to fit many needs including day, evening, weekend, and distance learning classes.

#### **Program supervised by:**

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#### **See also: Business Administration**

## FIRST YEAR

### Fall Semester 17 Credits

- BUS 107 - The Freshman Experience
- BUS 111 - Financial Accounting
- BUS 112 - Quantitative Business Methods  
See note 1
- BUS 118 - Business Law I
- BUS 141 - Marketing

- ENG 110 - College Writing I

### Spring Semester 16 Credits

- BUS 115 - Business Statistics
- BUS 120 - Business Law II
- BUS 210 - Managerial Accounting
- CST 105 - Computer Applications
- ECO 111 - Introduction to Macro-Economics

## SECOND YEAR

### Fall Semester 15-16 Credits

- Advisor Approved General Education Course <sup>2</sup> Credits: 3
- Advisor Approved General Education Course <sup>2</sup> Credits: 3
- BUS 246 - Principles of Management
- ECO 110 - Micro-Economics
- MAT 136 - College Algebra and Trigonometry I
- MAT 146 - Applied Business Calculus

### Spring Semester 17 Credits

- Advisor Approved General Education Course <sup>2</sup> Credits: 3
- Lab Science Elective Credits: 4
- ENG — Advisor Approved ENG course Credits: 3
- PED — Physical Education Credit: 1
- BUS 248 - Human Resource Management
- SOS 116 - International Business Environments

Total Credits: 65-66 Credits

### Notes

<sup>1</sup>Depending on Mathematics entrance score and Math background, students will take: Math 090 and QBM, QBM, or Principles of Management.

<sup>2</sup>See Advisor: Non general education electives may be acceptable for students not transferring or transferring to non-SUNY colleges.

**Marketing/Management/Sales: A.A.S.**



### *Associate in Applied Science*

The Marketing/Management/Sales Associate in Applied Science is designed as a general business program leading to immediate employment opportunities, although many students will transfer to 4-year institutions. By carefully selecting the business course electives, a student can generate a concentration in a particular field such as Sales, Retailing, Management, Marketing, or Entrepreneurship (Small Business Management). To identify these courses, students should discuss their interests with their academic advisors. Three such recommended sequences are shown on the following pages.

This program may be taken on a full-time or part-time basis, including on weekends (see College On The Weekend).

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### **General Emphasis**

- <sup>4</sup>Advisor Approved General Education Course Credits: 3
- BUS Business Electives Credits: 12
- Business Related Electives (see list) Credits: 3
- Social Science Elective Credits: 3
- ENG Advisor Approved English Credits: 3
- Math or Science Elective Credits: 3-4
- AAS in Marketing/Management
- BUS 100 - Accounting I
- BUS 111 - Financial Accounting
- BUS 112 - Quantitative Business Methods
- BUS 115 - Business Statistics
- BUS 118 - Business Law I
- BUS 120 - Business Law II
- BUS 141 - Marketing
- BUS 152 - Selling Fundamentals
- BUS 181 - The Internet with Business Applications
- BUS 269 - Business Reports and Computer Communications
- CST 105 - Computer Applications
- ECO 110 - Micro-Economics
- ENG 110 - College Writing I
- PHS 111 - Earth Investigations

See note 1

## Additional Requirements

- 3, 1-Credit Approved BIT Electives.  
or
- BUS 181 - The Internet with Business Applications  
or
- CST 105 - Computer Applications

## Total Credits 68-69

## Entrepreneurship Sequence

### FIRST YEAR

#### Fall Semester 17 Credits

- BUS 107 - The Freshman Experience
- BUS 112 - Quantitative Business Methods
- BUS 118 - Business Law I
- BUS 141 - Marketing
- ENG 110 - College Writing I

#### Additional Requirements

- BUS 100 - Accounting I  
or
- BUS 111 - Financial Accounting

#### Spring Semester 16-17 Credits

- Advisor Approved Computer Elective (see list) Credits: 3
- Advisor Approved General Education Course <sup>4</sup> Credits: 3
- Math/Science Elective Credits: 3-4
- BUS 120 - Business Law II

#### Additional Requirements

- BUS 101 - Accounting II  
or

- BUS 210 - Managerial Accounting

## SECOND YEAR

### Fall Semester 15-16 Credits

- Advisor Approved General Education Course <sup>4</sup> Credits: 3
- BUS 131 - Personal Finance
- BUS 224 - Business Finance  
See note 2
- ECO 110 - Micro-Economics
- PHS 111 - Earth Investigations  
See note 1

### Spring Semester 16-17 Credits

- ENG Advisor Approved Eng 3
- BUS 229 - Advertising  
See note 2
- BUS 246 - Principles of Management
- BUS 262 - Small Business Management

### Select one of the following:

- BUS Business Elective Credits: 3-4  
or
- BUS 297 - Co-operative Work Experience  
Recommended.

Total Credits: 64-67

## Human Resource Management Sequence

## FIRST YEAR

### Fall Semester 17 Credits

- BUS 107 - The Freshman Experience
- BUS 112 - Quantitative Business Methods

- BUS 118 - Business Law I
- BUS 141 - Marketing
- ENG 110 - College Writing I

### Additional Requirements

- BUS 100 - Accounting I  
or
- BUS 111 - Financial Accounting

### Spring Semester 16-18 Credits

- Lab Science (Recommended) Credits: 3-4
- MAT — Math Elective Credits: 3-4
- BUS 120 - Business Law II
- BUS 248 - Human Resource Management

### Additional Requirements

- BUS 101 - Accounting II  
See note 5  
or
- BUS 210 - Managerial Accounting  
See note 5

## SECOND YEAR

### Fall Semester 18 Credits

- CST — Advisor Approved Computer Elective <sup>3</sup> Credits: 3
- Advisor Approved General Education Course <sup>4</sup> Credits: 3
- BUS 115 - Business Statistics
- BUS 246 - Principles of Management
- BUS 251 - Advanced Topics in Human Resource Management
- ECO 110 - Micro-Economics

### Spring Semester 15 Credits

- ENG — Advisor Approved Eng Credits: 3
- Advisor Approved General Education Course <sup>4</sup> Credits: 3
- BUS 131 - Personal Finance  
or



- BUS 135 - Investments
- BUS 240 - Labor/Management Relations
- BUS 244 - Employment Law

Total Credits: 66-68

## Marketing Sequence

### FIRST YEAR

#### Fall Semester 17 Credits

- BUS 100 - Accounting I
- BUS 107 - The Freshman Experience
- BUS 112 - Quantitative Business Methods
- BUS 118 - Business Law I
- BUS 141 - Marketing
- ENG 110 - College Writing I

#### Spring Semester 15 Credits

- Advisor Approved General Education Course <sup>4</sup> Credits: 3
- Advisor Approved General Education Course <sup>4</sup> Credits: 3
- BUS 120 - Business Law II
- BUS 248 - Human Resource Management
- ECO 110 - Micro-Economics

### SECOND YEAR

#### Fall Semester 19-20 Credits

- <sup>4</sup>Advisor Approved Computer Elective (see list) Credits: 3
- BUS Business Elective Credits: 3-4
- ENG Advisor Approved Eng Credits: 3
- BUS 152 - Selling Fundamentals
- BUS 229 - Advertising  
See note 2
- PHS 111 - Earth Investigations  
See note 3

## Spring Semester 18-19 Credits

- Mathematics or Science Elective Credits: 3-4
- BUS 129 - Consumer Behavior  
See note 2
- BUS 242 - Marketing Seminar  
See note 2
- BUS 246 - Principles of Management
- BUS 267 - Retailing in a Service Economy  
See note 2
- BUS 269 - Business Reports and Computer Communications

Total Credits: 69-71

## Advisor Approved Computer Electives

- approved BIT 1.0 credit courses
- BUS 181 - The Internet with Business Applications
- CST 105 - Computer Applications
- CST 158 - Spreadsheets With Financial Applications

## Business Related Courses

BUS, BIT, CST, DMR, MAT, MET, BNK, BHM, LAW.

## Notes

<sup>1</sup>Students who are planning to transfer are advised to take a four credit lab science elective.

<sup>2</sup>Take these courses in the semester (spring or fall) indicated. They are not offered in all semesters.

<sup>3</sup>Students who are planning to transfer are advised to take a four credit lab science elective.

<sup>4</sup>See Advisor: Non general education electives may be acceptable for students not transferring or transferring to non-SUNY colleges.

<sup>5</sup>See Advisor when selecting

This program can be taken on a part-time or weekend basis. See College On The Weekend program.

## Office Administration: A.A.S.

### *Associate in Applied Science*

Students in this program concentrate their studies in areas such as computer applications, information processing, business communications, and office management. Graduates are prepared to handle the

basic operations and administrative duties of the integrated electronic office. By careful selection of electives, students may be exposed to specific office environments, such as medical or legal offices.

Students interested in obtaining skills or knowledge in a particular field without committing to a full-time degree program may earn a certificate of achievement by completing three to five required courses in areas such as computer applications, business communications, or office management. Interested students should contact the Business Information Technology chairperson for more information.

**SEQUENCE OF COURSES:** This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.

**Program supervised by:**

Sandra Wright

Office Business Building, Room 107

Telephone: 607-778-5008

E-mail: [wright\\_s@mail.sunybroome.edu](mailto:wright_s@mail.sunybroome.edu)

**See also: Business Information Management**

## FIRST YEAR

### Fall Semester 15 Credits

- Social Science Elective <sup>2</sup> Credits: 3
- BIT 100 - Keyboarding
- BIT 110 - Business English
- BUS 112 - Quantitative Business Methods  
See note 1
- ENG 110 - College Writing I

### Spring Semester 18 Credits

- Lab Science Elective Credits: 3
- BIT 130 - Word Processing Applications
- BIT 140W - Business Communication
- BIT 260 - Introduction to Database Management
- ENG 111 - College Writing II
- SPK 110 - Effective Speaking

## SECOND YEAR

### Fall Semester 17 Credits

- BIT Elective Credits: 3
- BIT 104 - Keyboarding Speed Development
- BIT 200 - Spreadsheets with Business Applications
- BIT 255 - Integrated Business Office Applications
- BIT 270W - Personal and Professional Development
- BUS 108 - Accounting for a Service Business

### Spring Semester 17 Credits

- BIT Elective Credits: 3
- Social Science Elective <sup>2</sup> Credits: 3
- MAT/SCI Elective Credits: 3
- BIT 275 - Advanced Business Communication
- BIT 280W - Office Administration
- BIT 297W - Internship

Total Credits: 67

### Notes

<sup>1</sup>Depending on Mathematics entrance testing scores, the student will take MAT 090 and/or BUS 112.

Students should check with their advisor during the scheduling process to make sure courses are taken in proper sequence and any prerequisites have been met. Some flexibility is available as to when courses must be taken, but not all courses are offered every semester.

<sup>2</sup>Advisor approved General Education Elective

W - Writing Emphasis Course

## Office Technologies: Certificate

### Certificate Program

The Office Technologies Certificate program allows students the flexibility to design a program that will best meet their needs. Students completing the 30-credit Certificate Program must have earned 15 credits from the Business Information Technology Departmental offerings and an additional 15 credits from any subject area — including Business Information Technology. With proper planning and advisement, students may be able to apply the 30 credits earned toward an AAS degree in Office Administration or Individual Studies.



**SEQUENCE OF COURSES:** This model is a one-year course schedule for students pursuing full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.

**Program supervised by:**

Sandra Wright

Office Business Building, Room 107

Telephone: 607-778-5008

E-mail: wright\_s@sunybroome.edu

**Office Technologies Core Courses (suggested, not required - total of 15)**

- BIT 100 - Keyboarding
- BIT 110 - Business English
- BIT 130 - Word Processing Applications
- BIT 140W - Business Communication
- BIT 200 - Spreadsheets with Business Applications

**Additional Requirements**

- Plus 15 additional credits in a specific Career Concentration — 2 examples follow:

**Advanced Office Technologies Concentration (suggested, not required - total 15 credits)**

- BIT 120 - Document Formatting
- BIT 197W - Cooperative Work Experience
- BIT 210 - Machine Transcription
- BIT 255 - Integrated Business Office Applications
- BIT 260 - Introduction to Database Management

**Office Administration Concentration (suggested, not required - total 15 credits)**

- BIT 197W - Cooperative Work Experience
- BIT 265W - Project Management
- BIT 270W - Personal and Professional Development
- BIT 275 - Advanced Business Communication
- BIT 280W - Office Administration

**Paralegal Studies: A.A.S.**

*Associate in Applied Science*<sup>1</sup>

The Paralegal Studies program is designed to introduce students to the substantive and practical aspects of the paralegal function, leading to an Associate in Applied Science degree. The program emphasizes both the theory and the practice of paralegal procedures essential for employment in a law office or other legal settings. The program can be pursued on a full or part-time basis.

Students wishing to transfer to four-year schools as pre-law majors should consult the Business Department.

**SEQUENCE OF COURSES: This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.**

**Program supervised by:**

Rick Behr

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Gerald A. Loy, Esq.

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E-mail: [loy-g@sunybroome.edu](mailto:loy-g@sunybroome.edu)

## FIRST YEAR

### Fall Semester 17 Credits

- BUS 107 - The Freshman Experience
- BUS 112 - Quantitative Business Methods
- BUS 118 - Business Law I
- BUS 141 - Marketing
- ENG 110 - College Writing I

### Additional Requirements

- BUS 100 - Accounting I  
or
- BUS 108 - Accounting for a Service Business  
or
- BUS 111 - Financial Accounting

### Spring Semester 15 Credits

- Business Elective Credits: 3
- Paralegal Elective Credits: 3
- LAW 110 - Survey of Paralegalism
- LAW 200 - Real Property Law

- PSY 110 - General Psychology  
or
- SOC 110 - Introduction to Sociology

## SECOND YEAR

### Fall Semester 18 Credits

- Math/Science Elective <sup>2</sup> Credits: 3
- Business Elective Credits: 3
- Social Science Elective <sup>3</sup> Credits: 3
- Free Elective Credits: 3
- LAW 207W - Legal Writing and Research
- LAW 215 - Estates, Probates and Trusts

### Spring Semester 18 Credits

- ENG Advisor Approved English Course Credits: 3
- Paralegal Elective Credits: 3
- Paralegal Elective Credits: 3
- Paralegal Elective Credits: 3
- Math/Science Elective <sup>2</sup> Credits: 3
- Arts/Science Elective Credits: 3

Total Credits: 68

## Notes

Students should check with their advisors during the scheduling process to make sure courses are taken in proper sequence and any prerequisites have been met. Some flexibility is available as to when courses must be taken, but not all courses are offered every semester.

<sup>1</sup>A Paralegal Certificate is available.

<sup>2</sup>Recommended Math/Sciences: MAT 113/114/115/124, PHS 111

<sup>3</sup>Choose one from the following: ECO 110/111, SOC 110/111, POS 201/204, SOS 111/120/130.

<sup>4</sup>See Advisor

## Paralegal: Certificate

## Certificate Program

The Paralegal Certificate emphasizes both the theory and the practice of paralegal procedures essential for employment in a law office or other legal settings.

Students may complete the program in 9 months if they take the required courses in the proper sequence, or they may take longer if they wish. Courses are offered day, evening, or online. Students should check with their advisor during the scheduling process to make sure courses are taken in proper sequence and any prerequisites have been met. Some flexibility is available as to when courses must be taken, but not all courses are offered every semester. All students must complete the core requirements below, and then complete at least an additional 18 credits chosen from the designated electives. With proper planning and advisement, students may be able to apply most of the credits earned towards an Associates Degree in Paralegal Studies.

**Program supervised by:**

Jan Pitera

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Gerald A. Loy, Esq.

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## CORE REQUIREMENTS

- LAW 110 - Survey of Paralegalism
- LAW 200 - Real Property Law
- LAW 215 - Estates, Probates and Trusts
- LAW 227 - Constitutional Law

Total Core Credits: 12

## Remaining Electives

*Choose 18 credits from the following:*

- LAW Elective Credits: 3
- BUS 100 - Accounting I
- or
- BUS 108 - Accounting for a Service Business
- or
- BUS 111 - Financial Accounting
- BUS 120 - Business Law II
- BUS 248 - Human Resource Management
- LAW 207W - Legal Writing and Research
- PSY 110 - General Psychology
- or LAW Elective
- SOC 110 - Introduction to Sociology

or LAW Elective

Total Certificate Credits: 30

## Website Development and Management Certificate

### Program supervised by:

Sandra Wright

Office Business Building, Room 107

Telephone: 607-778-5008

E-mail: wright\_s@mail.sunybroome.edu

### REQUIRED COURSES

- BIM 150 - Understanding Electronic Commerce
- BIT 173 - Basics of Website Creation
- BIT 182 - Designing Effective Web Pages
- BIT 185 - Raster-Based Software Tools for Web/Print Publishers
- BIT 186 - Interactive Websites
- BUS 190 - Marketing and the World Wide Web

### Elective Courses:

#### (Select Four)

- BIT 190 - Animation for the Electronic Media
- BIT 197W - Cooperative Work Experience
- BIT 240 - Desktop Publishing Using PageMaker
- BIT 265W - Project Management
- BUS 110 - Introduction to Business
- BUS 113 - Introduction to Entrepreneurship
- BUS 114 - Entrepreneurship Law

### Total

A total of 30 credits required for certificate completion.

### Note

Course work required for completion of this certificate can be used for:

Associate of Applied Science in Business Information Management.



# Health Science Division

## Clinical Laboratory Technology: A.A.S.

### *Associate in Applied Science*

The Clinical Laboratory Technician plays a vital role in patient care by performing laboratory testing to provide diagnostic evidence of health and disease. Clinical Laboratory Technicians are trained in all major areas of the clinical laboratory, including Hematology, Immunology, Microbiology, Body Fluids, Blood Banking, Clinical Chemistry, and Histology.

Tasks performed by these professionals include examining microscopic specimens, cross-matching donated units of blood, identifying microorganisms in infections, or operating computers and complex laboratory instrumentation.

Employers include: hospital laboratories, physician offices, pharmaceutical companies, research facilities, armed forces, and veterinary clinics. Technicians may advance through education to levels of Clinical Laboratory Technologist or Specialist. Students entering with a Bachelor's degree may qualify for licensure as a Clinical Laboratory Technologist in New York State.

Wherever they work, the technicians and technologist in this field share a strong desire to help others, a love of challenge and responsibility, and the ability to complete a wide variety of scientific tests accurately and reliably.

Pre-admission advisement is recommended.

Program Supervised by:

Rachael Hagerman

Office: Decker Building, Room 217B

Telephone: 607 778-5211

Email: hagerman\_r@sunybroome.edu

### FIRST YEAR

#### Fall Semester 19 Credits

- Social Science Elective 3 Credits
- BIO 131 - Human Biology I
- CHM 145 - Chemistry I
- CHM 145L - Chemistry I Laboratory
- ENG 110 - College Writing I
- Or
- ENG 107 - English as a Second Language, Advanced I
- MAT 124 - Statistics I

- CLT 110 - Introduction to Clinical Laboratory Technology
- CLT 120 - Clinical Laboratory Techniques and Practices

### Spring Semester 18 Credits

- Civic Ed Elective 3 Credits
- BIO 132 - Human Biology II
- CHM 146 - Chemistry II
- CHM 146L - Chemistry II Laboratory
- CLT 201W - Hematology and Coagulation
- CLT 204 - Fundamental Phlebotomy
- CLT 200 - Histological Techniques

## SECOND YEAR

### Fall Semester 18 Credits

- CHM 133 - Survey of Organic Chemistry
- CLT 208 - Pathogenic Microbiology
- CLT 210 - Diagnostic Microbiology Laboratory
- CLT 207 - Clinical Chemistry
- CLT 216 - Immunology
- CLT 202 - Urinalysis/Body Fluids

### Spring Semester 18 Credits

- CLT 220L - Serological Techniques
  - CLT 206 - Immunohematology
  - CLT 240 - Clinical Affiliation I
  - CLT 241 - Clinical Affiliation II
  - CLT 242 - Clinical Affiliation III
  - CLT 295 - Senior Seminar
  - LIT 200 - Introduction to Literature
- Or other LIT

## GRADUATION REQUIREMENTS: 73 CREDITS

# Dental Hygiene: A.A.S.

## *Associate in Applied Science*

The Dental Hygiene curriculum is designed to prepare students for contemporary practice of dental hygiene. The curriculum emphasizes the fundamental knowledge necessary for practice in a private dental office or similar clinical setting under the supervision of a dentist.

The dental hygienist performs various preventive services, such as dental prophylaxis, topical fluoride applications, dental sealants, dental radiographs, instruction in plaque control procedures and experience with computerized dental office management systems. Successful completion of this curriculum permits one to take the required written and practical licensure examinations.

Students who wish to pursue a career as a dental hygienist in public health, health management, health education or dental hygiene education are encouraged to transfer to a baccalaureate program after graduation.

According to the 2007 Bureau of Labor Statistics, the National Dental Hygiene wage average was \$64,700 and the New York State average was \$61,100. By the year 2016, the national employment trend is expected to increase by 30%. BCC graduates meeting state and national licensing requirements are employed within six months of graduation.

In addition to textbooks, students are also expected to purchase numerous clinical supplies and malpractice insurance for clinical practice. Students are also required to complete the Dental Hygiene Department Freshman Orientation Manual requirements prior to admittance in the fall DH courses.

Individuals who self-disclose the presence of a blood-borne infectious disease will be shown the same consideration as non-infected individuals and will be offered reasonable accommodations. All information regarding the health status on an individual is considered confidential, and protected by the Family Education Rights and Privacy Act of 1994.

The program is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council on Post-Secondary Accreditation and by the United States Department of Education.

### **Pre-requisite requirements and/or academic preparation for admissions:**

1. Math Level I: Regents Course 1 or Math A (minimum grade 74)  
or  
Applied Math I and II (minimum grade 74)  
or  
Equivalent (minimum grade 74)
2. Regents Biology or  
Applied Science I and II (minimum grade 74)  
or  
Equivalent (minimum grade 74)
3. Regents Chemistry or  
Equivalent (minimum grade 74)

Recommended High School subjects: College Preparatory Courses

**Program supervised by:**

Maureen Mullins Hankin

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Telephone: 607 778-5149

E-mail: hankin\_m@sunybroome.edu

**FIRST YEAR****Fall Semester 16.5 Credits**

- BIO 131 - Human Biology I
- DEN 101 - Dental Hygiene I
- DEN 103 - Oral Anatomy and Physiology
- DEN 108 - Infection Control in Dentistry
- DEN 109 - Dental Ethics and Jurisprudence
- ENG 110 - College Writing I

**Spring Semester 18.5 Credits**

- BIO 132 - Human Biology II
- DEN 102 - Dental Hygiene II
- DEN 106 - Clinical Dental Radiography
- DEN 107 - Introduction to Periodontology
- DEN 110W - Dental Materials
- MLT 208 - Pathogenic Microbiology
- MLT 209L - Pathogenic Microbiology Laboratory

**SECOND YEAR****Fall Semester 20 Credits**

- DEN 201 - Dental Hygiene III
- DEN 203 - Pain Management in Dentistry
- DEN 204 - General and Oral Pathology
- DEN 205 - Periodontology
- DEN 206 - Dental Pharmacology
- DEN 209 - Dental Nutrition
- PSY 110 - General Psychology

**Spring Semester 17 Credits**

- DEN 202 - Dental Hygiene IV

- DEN 213W - Community Dental Health
- DEN 214 - Current Topics in Dental Hygiene
- SOC 110 - Introduction to Sociology
- or
- SOC 111 - Social Problems
- or
- SOC 230 - The Family/Marriage and its Alternatives
- ENG 220 - Communicating About Ideas and Values

## GRADUATION REQUIREMENT: 72 CREDITS

### Notes:

DEN 110 Dental Materials and DEN 213 Community Dental Health each count as one "Writing Emphasis" (W) course. A total of two "Writing Emphasis" courses are required for the A.A.S. DH Degree.

Students are required to complete a course in CPR (Cardio-Pulmonary Resuscitation) before entering the dental hygiene program. Students must also be re-certified before entering the third semester. The department strongly recommends that the student have a vaccination against Hepatitis B and an eye exam prior to beginning the program. Students must complete the DEN course sequence three (3) years from the start of the first required professional DEN course.

## Evening Weekender Program in Nursing

For entry into the Evening/Weekender Program in Nursing, it is suggested that students complete required Liberal Arts and Sciences courses prior to nursing courses.

Nursing courses are offered 2 evenings per week and every other weekend (Sat & Sun)

### **Program supervised by:**

Judy Samsel

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E-mail: samsel\_j@sunybroome.edu

## Sample Nursing Course Sequencing

### FIRST YEAR

#### Spring Semester

*Co-requisites (or taken previously): ENG 110, PSY 110 & BIO 131*

- ADN 105 - Meeting Human Needs I



## Fall Semester

*Pre-requisite: ADN 105*

*Co-requisites (or taken previously): BIO 132, MDA 210, PSY 210*

- ADN 106 - Meeting Human Needs II

## SECOND YEAR

### Spring Semester

- ADN 211 - Meeting Human Needs III  
\*

### Fall Semester

- ADN 212 - Meeting Human Needs IV  
\*

## THIRD YEAR

### Spring Semester

- ADN 214 - Meeting Human Needs VI  
\*

### Fall Semester

- ADN 213 - Meeting Human Needs V  
\*

## GRADUATION REQUIREMENTS: 71 CREDITS

## Notes

\*Pre-requisites: PSY 210, ADN 106, BIO 132, MDA 210

ADN 211-214 may be sequenced differently

# Health Information Technology: A.A.S.

## *Associate in Applied Science*

Health Information professionals play a critical role in maintaining, collecting and analyzing the data that doctors, nurses and other healthcare providers rely on to deliver quality healthcare. They are experts in managing patient health information and medical records, administering computer information systems and coding the diagnosis and procedures for healthcare services provided to patients and for reimbursement and research. HIM professionals work in a multitude of settings throughout the healthcare industry including hospitals, physician offices and clinics, long-term care facilities, insurance companies, government agencies and home care providers.

Practice in the college health information laboratory as well as in health information departments of various healthcare facilities, provides opportunities of additional educational experience.

Students who graduate from the program are eligible to take the National Certification Examination to become a Registered Health Information Technician (RHIT). Graduates may continue health information management education toward a baccalaureate degree at four-year colleges.

**Sequence of Courses: The following coursework must be successfully completed to earn the A.A.S. degree in Health Information Technology. Courses are sequential and have prerequisites.**

### **Program supervised by:**

Jane Hlopko

Office: Decker Center, Room 217

Telephone: 607 778-5063

E-mail: hlopko\_j@sunybroome.edu

## FIRST YEAR

### Fall Semester 17 Credits

- BIO 131 - Human Biology I
- CST 105 - Computer Applications
- ENG 110 - College Writing I
- HIT 101 - Introduction to Health Information Systems
- HIT 106 - Medical Terminology

### Spring Semester 18 Credits

- Social Science Electives (Civic Education Elective) Credits: 6
- BIO 132 - Human Biology II
- HIT 116 - Health Statistics
- HIT 222W - Medical Legal Aspects
- MDA 210 - Pharmacology

## SECOND YEAR

### Fall Semester 20 Credits

- BIO 140 - Pathophysiology
- ENG 220 - Communicating About Ideas and Values
- HIT 144 - Clinical Practicum I  
See note 1
- HIT 203 - Computers in Health Care
- HIT 204 - Inpatient Coding System
- HIT 205 - Coding Practicum
- HIT 236 - Quality Improvement

### Spring Semester 16 Credits

- HIT 210 - Management Principles for Health Information
- HIT 214 - Ambulatory Care Coding
- HIT 220 - Survey of Healthcare Delivery
- HIT 245 - Clinical Practicum II  
See note 1
- HIT 295 - Health Information Seminar

## GRADUATION REQUIREMENTS: 71 CREDITS

### Notes

<sup>1</sup>HIT 144 requires 60 clinical hours over 10 weeks; HIT 245 is conducted in a six-week block time frame. Students will be in a participating facility 5 days a week/6 hours a day = 180 hours.

### Suggested Elective(s):

- HIT 107 - Medical Transcription and Correspondence
- HIT 208 - Advanced Medical Transcription

## Health Sciences: Individual Studies: A.A.S.

Individual Studies: Health Sciences provides opportunities for students interested in achieving entry-level coursework for transfer to Health Career programs of their choice.

**Program supervised by:**

Andrea C. Wade, Dean of Health Sciences  
Office: Applied Technology Building, Room 201  
Telephone: 607 778-5014  
Email: wade\_a@sunybroome.edu

## Requirements

- 10 credits in Technical Electives
- minimum 24 credits in student's area of concentration (HST 100 required)
- minimum 20 credits in Humanities, Social Sciences, Mathematics, Natural Sciences

To include:

6 credits in English

6 credits in Social Sciences (3 civic education)

3 credits Math

8 credits Natural Sciences (Bio 131/132 required)

The Health Science Division offers certificate programs and individual courses, which can fit within an Individual Studies degree. All of these courses of study lead to a technical skill/competency. Many of the courses are also applicable to Health Science degree programs.

## SHORT TERM PROGRAMS AVAILABLE WITHIN INDIVIDUAL STUDIES

Medical Transcription

Phlebotomy

Coding and Reimbursement – see Program Supervisor

## Individual Courses

The following individual courses prepare students for immediate employment in entry-level health care positions.

- EMT 110 - Basic Emergency Medical Technician

## Looking for an Elective in the Health Sciences?

- ADN 112 - Holistic Health
- ADN 116 - Humor and Healthy Living
- HIT 106 - Medical Terminology  
See note \*
- HIT 222W - Medical Legal Aspects  
See note \*
- MDA 208W - Medical Ethics, Law and Economics
- MDA 210 - Pharmacology  
See note \*
- CLT 110 - Introduction to Clinical Laboratory Technology  
See note\*

- CLT 204 - Fundamental Phlebotomy  
See note\*

## Note

\*On-Line sections may be available

Total Credits: 60

## Health Sciences: Individual Studies: A.S.

Individual Studies: Health Sciences provides opportunities for students interested in achieving entry-level coursework for transfer to Health Career programs of their choice.

### Program supervised by:

Andrea C. Wade, Dean of Health Science

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## Requirements

- 30 credits in student's area of concentration (HST 100 required)
- 30 credits in English, Humanities, Natural Science, Mathematics, Social Science, and Physical Education

To include:

9 credits of Humanities

6 credits of Social Sciences (3 civic education)

8 credits of Laboratory Science (Bio 131/132 required)

The Health Science Division offers certificate programs and individual courses, which can fit within an Individual Studies degree. All of these courses of study lead to a technical skill/competency. Many of the courses are also applicable to Health Science degree programs.

## SHORT TERM PROGRAMS AVAILABLE WITHIN INDIVIDUAL STUDIES

Medical Transcription

Phlebotomy

Coding and Reimbursement – see Program Supervisor

## Individual Courses

The following individual courses prepare students for immediate employment in entry-level health care positions.



- EMT 110 - Basic Emergency Medical Technician

### Looking for an Elective in the Health Sciences?

- ADN 112 - Holistic Health
- ADN 116 - Humor and Healthy Living
- HIT 106 - Medical Terminology  
See note \*
- HIT 222W - Medical Legal Aspects  
See note \*
- MDA 208W - Medical Ethics, Law and Economics
- MDA 210 - Pharmacology  
See note \*
- CLT 110 - Introduction to Clinical Laboratory Technology  
See note\*
- CLT 204 - Fundamental Phlebotomy  
See note\*

### Note

\*On-Line sections may be available

Total Credits: 60

## Medical Assistant: A.A.S.

### *Associate in Applied Science*

A Medical Assistant is one of the most versatile of all the allied health professionals. Graduates find positions in physicians' offices, medical centers, clinics, hospitals, armed services, laboratories and pharmaceutical companies. The program is designed to enable graduates to do both administrative and clinical/laboratory techniques.

Students in the program acquire the knowledge and necessary techniques to prepare patients for examinations and to assist the physician in performing not only routine medical procedures but also electrocardiography, audiometry, urinalysis and hematological tests.

Courses in medical terminology, keyboarding, medical correspondence and medical office management, prepare the student to conduct business and administrative duties.

Directed Practice is an integral part of the curriculum as senior students participate in a 15-week, externship program that requires a working experience in physicians' offices or other health care facilities.

Graduates may elect to take a national examination given by the AAMA to become Certified Medical Assistants.

**SEQUENCE OF COURSES:** This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.

**Program supervised by:**

Jane A. Hlopko

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Telephone: 607 778-5063

E-mail: hlopko\_j@sunybroome.edu

## FIRST YEAR

### Fall Semester 16 Credits

- BIO 131 - Human Biology I
- ENG 110 - College Writing I
- HIT 106 - Medical Terminology
- MDA 102 - Medical Assisting Science
- MDA 104 - Keyboarding and Medical Word Processing
- MDA 114 - Standard First Aid Management of Emergencies

### Spring Semester 15 Credits

- SOC SCI/Civic elective Credits: 3
- BIO 132 - Human Biology II
- MDA 115 - Medical Assisting Procedures I
- MDA 206 - Medical Office Management

## SECOND YEAR

### Fall Semester 18 Credits

- MDA 106 - Medical Transcription and Correspondence
- MDA 201 - Medical Assisting Procedures II
- MDA 207 - Advanced Medical Office Management
- MDA 208W - Medical Ethics, Law and Economics
- PSY 110 - General Psychology

### Spring Semester 18 Credits

- ENG 220 - Communicating About Ideas and Values
- MDA 210 - Pharmacology
- MDA 211 - Medical Assisting Procedures III
- MDA 245 - Directed Practice Seminar
- MDA 246 - Clinical Practicum I
- MDA 247 - Clinical Practicum II

## GRADUATION REQUIREMENTS: 67 CREDITS

### Notes

**ALL STUDENTS MUST HAVE CPR CERTIFICATION and a physical before going out to clinical in senior semester.**

## Medical Laboratory Technology: A.A.S.

### *Associate in Applied Science*

The Medical Laboratory Technician plays a vital role in patient care by performing laboratory testing to provide diagnostic evidence of health and disease. Medical Laboratory Technicians are trained in all major areas of the clinical laboratory, including Hematology, Immunology, Microbiology, Body Fluids, Blood Banking, Clinical Chemistry, and Histology.

Tasks performed by these professionals include examining microscopic specimens, cross-matching donated units of blood, identifying microorganisms in infections, or operating computers and complex laboratory instrumentation.

Employers include: hospital laboratories, physician offices, pharmaceutical companies, research facilities, armed forces, and veterinary clinics. Technicians may advance through education to levels of Medical Technologist or Specialist.

Wherever they work, the technicians and technologist in this field share a strong desire to help others, a love of challenge and responsibility, and the ability to complete a wide variety of scientific tests accurately and reliably.

Pre-admission advisement is recommended.

### **Program Supervised by:**

Rachael Hagerman

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## FIRST YEAR

### Fall Semester 19 Credits

- Social Science Elective Credits: 3
- BIO 131 - Human Biology I
- CHM 145 - Chemistry I
- ENG 110 - College Writing I
- MAT 124 - Statistics I
- MLT 110 - Introduction to Medical Laboratory Technology
- MLT 120 - Medical Laboratory Techniques and Practices

### Spring Semester 18 Credits

- Civic Education Elective Credits: 3
- BIO 132 - Human Biology II
- CHM 146 - Chemistry II
- MLT 201W - Hematology and Coagulation
- MLT 204 - Fundamental Phlebotomy  
(5 wks)

## SECOND YEAR

### Fall Semester 18 Credits

- CHM 133 - Survey of Organic Chemistry
- MLT 202 - Urinalysis/Body Fluids
- MLT 207 - Clinical Chemistry
- MLT 208 - Pathogenic Microbiology
- MLT 210 - Diagnostic Microbiology Laboratory
- MLT 216 - Immunology

### Spring Semester 18 Credits

- LIT 200 - Introduction to Literature
- MLT 206 - Immunohematology
- MLT 220L - Serological Techniques
- MLT 240 - Clinical Affiliation I
- MLT 241 - Clinical Affiliation II
- MLT 242 - Clinical Affiliation III
- MLT 298 - Special Topics

## GRADUATION REQUIREMENTS: 73 CREDITS

### Note

For important general information see Health Science curricula.

## Medical Transcription: Certificate

### Certificate Program

Medical Transcriptionists understand and use medical terms, appropriate reference materials, word processing equipment and software to transcribe medical reports dictated by physicians and other health care professionals.

Medical transcriptionists work in a variety of settings, including Health Information Departments and ancillary professional departments of hospitals (e.g. radiology, pathology, etc.), clinics, doctors' offices, private transcription businesses and other health care facilities.

#### **Program supervised by:**

Jane A. Hlopko

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### First Semester 16-17 Credits

- BIO 131 - Human Biology I  
or
- BIO 101 - Introduction to Anatomy and Physiology
- HIT 106 - Medical Terminology
- HIT 107 - Medical Transcription and Correspondence
- ENG 110 - College Writing I
- BIT 100 - Keyboarding  
or
- MDA 104 - Keyboarding and Medical Word Processing

### Second Semester 12-13 Credits

- BIO 132 - Human Biology II  
or



- MDA 211 - Medical Assisting Procedures III
- HIT 208 - Advanced Medical Transcription
- HIT 222W - Medical Legal Aspects
- or
- MDA 208W - Medical Ethics, Law and Economics
- MDA 210 - Pharmacology

## Additional Recommended Electives

- CST Any computer course dealing with word processing.
- BIO 140 - Pathophysiology
- HIT 101 - Introduction to Health Information Systems

## Nursing: A.A.S.

### *Associate in Applied Science*

Broome Community College Department of Nursing offers a college-based curriculum to prepare graduates for immediate entrance into the entry level of registered nursing. This program is accredited by the National League for Nursing Accrediting Commission and registered by the New York State Education Department. Graduates of this curriculum are eligible to take the national licensing examination for registered nurses. They are qualified for immediate employment in long term, acute care, home care, private medical offices, health maintenance organizations and clinic settings with salaries ranging from \$35,000 to \$50,000. Graduates may continue their education for the baccalaureate and higher degrees in the nursing field. BCC Nursing Department has articulation agreements with a variety of Bachelor of Science Nursing schools which makes transfer to these programs a smooth transition.

LPNs may apply for direct transfer credit and/or challenge first year nursing courses.

**SEQUENCE OF COURSES:** This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses. These students who wish part-time study may do so.

### **Program supervised by:**

Judy Samsel

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## FIRST YEAR

Fall Semester 17 Credits

- ADN 105 - Meeting Human Needs I
- BIO 131 - Human Biology I
- ENG 110 - College Writing I
- PSY 110 - General Psychology

### Spring Semester 19(20) Credits

- Social Science Credits: 3
- ADN 106 - Meeting Human Needs II
- ADN 298 - Nursing Seminar
- BIO 132 - Human Biology II
- MDA 210 - Pharmacology
- PSY 210 - Human Development

## SECOND YEAR

### Fall Semester 18(19) Credits

- ADN 211 - Meeting Human Needs III
- ADN 212 - Meeting Human Needs IV
- ADN 298 - Nursing Seminar
- BIO 150 - General Microbiology  
or
- MLT 208 - Pathogenic Microbiology  
and
- MLT 209L - Pathogenic Microbiology Laboratory

### Spring Semester 17 Credits

- ADN 213 - Meeting Human Needs V
- ADN 214 - Meeting Human Needs VI
- ENG 220 - Communicating About Ideas and Values  
or
- ENG 111 - College Writing II

## GRADUATION REQUIREMENTS: 71 CREDITS

### Notes

1. In order to progress, students must complete assignments in the Nursing Skills Center. Nursing Skills Center assignments are completed outside of class and clinical times.
2. Each student enrolled in Nursing must meet the mathematics proficiency requirements at selected intervals during the program.
3. Clinical experiences for Nursing students are scheduled by the Nursing Department and include days, evenings, and weekends. Students are responsible for providing their own transportation to clinical and community facilities in Broome and surrounding counties. Clinical components run concurrently with lecture. In order to progress, students must pass the clinical component which corresponds with each theory course.
4. ADN 298, Nursing Seminar, is required of all returning, transfer, and challenge students.
5. The Nursing program must be completed within 4 academic years of the date of enrollment in Nursing Courses.
6. Students must receive a "C" or better in all Nursing, Biology; Microbiology, and Pharmacology courses in order to progress in the Program.
7. See BCC Website: Nursing Department pages for essential functions required for the Nursing Program.

**For important general information see Health Science curricula.**

## **Phlebotomy: Certificate**

### **Certificate Program**

The Phlebotomy Certificate curriculum prepares students for entry-level positions in hospitals, clinics and other health care settings, collecting blood samples from patients, performing related technical procedures and processing the associated clerical tasks. As vital members of the health care team, phlebotomists work closely with patients and require good communication and organizational skills. To be successful, phlebotomists should be practical and accurate, able to inspire confidence in others and to put patients at ease. Phlebotomists need to be skilled at collecting blood and other specimens correctly to procure high quality specimens for laboratory analysis. The Phlebotomy Certificate program emphasizes a combination of phlebotomy theory and practical application necessary for successful employment.

Graduates may qualify for employment in hospitals, clinics, physicians' offices, and other health care settings. After completing requirements, graduates are eligible to sit for a national certification exam.

#### **Program supervised by:**

Rachael Hagerman

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### **Phlebotomy - Curriculum Requirements**

The following coursework must be successfully completed to earn a certificate in Phlebotomy.

#### **First Semester 13-14 Credits**

- BIO 101 - Introduction to Anatomy and Physiology  
or
- BIO 131 - Human Biology I
- ENG 110 - College Writing I
- HIT 106 - Medical Terminology
- HIT 222W - Medical Legal Aspects  
or
- MDA 208W - Medical Ethics, Law and Economics
- CLT 110 - Introduction to Clinical Laboratory Technology  
(5 wks)

## Spring Semester 14 Credits

- CLT 204 - Fundamental Phlebotomy
- CLT 214 - Specialized Phlebotomy
- CLT 215 - Phlebotomy Practicum

## Additional Requirements

- BIT 169 - Mastering the Internet and the WWW  
or
- CST 105 - Computer Applications  
or
- MDA 104 - Keyboarding and Medical Word Processing

## Additional Requirements

- ENG 220 - Communicating About Ideas and Values  
or
- SPK 110 - Effective Speaking

## GRADUATION REQUIREMENTS: 27/28 CREDITS

## Physical Therapist Assistant: A.A.S.

### *Associate in Applied Science*

The Physical Therapist Assistant (PTA) is a skilled health practitioner who works under the supervision of a Physical Therapist. Treatments provided by the PTA include exercises for increasing strength, endurance, coordination and range of motion; the use of heat, cold, electricity, sound and water to relieve pain and stimulate muscle activity; instruction in activities of daily living and the use of

assistive devices such as walkers, crutches and wheelchairs. Work settings include hospital, nursing home, rehabilitation centers, schools, and private practice.

The Physical Therapist Assistant Program at BCC is not designed as a transfer program to an upper division Physical Therapy Program.

Clinical Education is a necessary component of the program. Clinical Education may be some distance from their home, and students are responsible for their own housing and transportation. It may not be possible for students to pursue this program on a part-time basis.

**SEQUENCE OF COURSES: The following coursework must be successfully completed to earn the A.A.S. degree in Physical Therapist Assistant: (note: courses are sequential and have prerequisites.)**

**Program supervised by:**

Denise M. Abrams, PT, DPT, MA

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## FIRST YEAR

### Fall Semester 19 Credits

- BIO 131 - Human Biology I
- ENG 110 - College Writing I
- PSY 110 - General Psychology
- PTA 100 - Introduction to Physical Therapy I
- PTA 104 - Basic Musculoskeletal Anatomy
- PHY 118 - Physics for Physical Therapist Assistants

### Spring Semester 20 Credits

- BIO 132 - Human Biology II
- PSY 210 - Human Development
- PTA 101 - Introduction to Physical Therapy II
- PTA 102 - Introduction to Rehabilitation
- PTA 103 - Physical Agents and Massage
- MDA 114 - Standard First Aid Management of Emergencies

### Summer Term

- PTA 110 - Clinical Affiliation I

### Fall Semester 15 Credits



- PTA 201 - Kinesiology
- PTA 202 - Therapeutic Exercise
- PTA 210 - Clinical Affiliation II
- ENG 220 - Communicating About Ideas and Values

### Spring Semester 15 Credits

- Elective General Education Requirement 3
- PTA 213 - Senior Seminar I
- PTA 224 - Senior Seminar II
- PTA 220 - Clinical Affiliation III

## GRADUATION REQUIREMENTS: 72 CREDITS

### Notes

**For important general information see Health Science curricula.**

**Fifty hours of volunteer work in a hospital providing Physical Therapy are required prior to enrollment in PTA Courses. Contact department for information.**

A minimum grade of C in each PTA course is required in order for a student to progress in the PTA curriculum.

## Radiologic Technology: A.A.S.

### *Associate in Applied Science*

Radiologic Technology involves the use of modern equipment to produce optimal images for a radiologist to interpret for the diagnosis and treatment of disease. A radiologic technologist operates x-ray equipment, provides patient care and radiation protection, positions the patient, selects technical factors for radiographic quality, produces and processes radiographs, maintains quality control, and maintains records.

A radiologic technologist may continue their education in areas such as Sonography, Interventional Cardiology, Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Mammography, Departmental Administration, Quality Assurance Management, Research, Education, Radiation Therapy, Bone Densitometry, Nuclear Medicine, and Positron Emission Tomography (PET).

BCC's Radiologic Technology program consists of two years of combined academic and clinical education, the equivalent of 21 calendar months. Clinical education is provided in cooperating hospitals.

Upon completion of the academic and clinical competencies required for the program, the graduate is eligible to sit for the examination of the American Registry of Radiologic Technologists for certification and New York State licensure.

**SEQUENCE OF COURSES:** This model is a two-year course schedule for students meeting all pro-gram requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.

*The Associate or Science Degree Program in Radiologic Technology at Broome Community College is accredited with the Joint Review Committee on Education in Radiologic Technology (JRCERT); 20 N. Wacker Drive, Suite 2850; Chicago, IL 60606-3182; 312-704-5300; [www.jrcert.org](http://www.jrcert.org)*

**Program supervised by:**

Nancy Button

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## FIRST YEAR

### Fall Semester 18 Credits

- BIO 131 - Human Biology I
- ENG 110 - College Writing I
- RAD 100 - Introduction to Clinical Education  
See note 1
- RAD 101 - Image Production and Evaluation I
- RAD 103 - Positioning I
- RAD 110 - Methods of Patient Care
- RAD 115 - Radiation Protection

### Spring Semester 18 Credits

- BIO 132 - Human Biology II
- CST 105 - Computer Applications
- PSY 110 - General Psychology
- RAD 102W - Image Production and Evaluation II
- RAD 104 - Positioning II
- RAD 132 - Clinical Education II

### Summer I

- RAD 133 - Summer Clinical Education III
- RAD 214 - Sectional Anatomy
- RAD 216 - Imaging Modalities

## SECOND YEAR

### Fall Semester 14 Credits

- ENG 220 - Communicating About Ideas and Values
  - RAD 201 - Equipment Operation and Maintenance
  - RAD 204 - Advanced Positioning
  - RAD 211 - Pharmacology for Radiographers
  - RAD 220 - Radiologic Pathology
  - RAD 230 - Clinical Education IV
- See note 1

### Spring Semester 15 Credits

- Social Science elective Credits: 3
- RAD 225W - Advanced Imaging Procedures
- RAD 232 - Clinical Education V
- RAD 245 - Radiobiology
- RAD 250 - Quality Assurance
- RAD 295 - Seminar in Radiography

## GRADUATION REQUIREMENTS: 71 CREDITS

### Notes

**For important general information see Health Science curricula.**

<sup>1</sup>Two 40 hour weeks of clinical education during January. Successful achievement is a GRADUATION REQUIREMENT.

## Liberal Arts Division

### Chemical Dependency Counseling: A.A.S.

*Associate in Applied Science*

This program is designed to prepare students as paraprofessionals in the field of alcohol and substance abuse treatment. The program is also designed to provide continuing education for individuals presently working in the field. The curriculum is liberal arts based with a concentration in

alcohol and drug specialization courses. Coursework is enhanced with two supervised clinical internships.

Coursework is formulated to meet the educational component necessary to apply for New York State Credentialed Alcoholism and Substance Abuse Counselor (CASAC).

Graduates are prepared to work in a variety of alcohol and drug treatment facilities. Additionally, graduates can transfer to baccalaureate degree programs such as human services, counseling, and social work.

**Program supervised by:**

Jacqueline Shrader, Coordinator

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## FIRST YEAR

### Fall Semester 17 Credits

- Physical Education (cardiovascular) Credit: 1
- ASA 110 - Introduction to Chemical Dependency Studies
- BIO 131 - Human Biology I
- ENG 110 - College Writing I
- PSY 110 - General Psychology
- SOC 110 - Introduction to Sociology
- Or
- SOC 111 - Social Problems

### Spring Semester 16 Credits

- ASA 210 - Chemical Dependency Counseling I
- BIO 132 - Human Biology II
- PSY 217 - Introduction to Counseling Theory and Practice
- PSY 234 - Psychology of Addiction
- SPK 110 - Effective Speaking

## SECOND YEAR

### Fall Semester 16 Credits

- ASA 220 - Chemical Dependency Counseling II
- ASA 230 - Family Issues in Chemical Dependency
- ASA 310 - Supervised Clinical Internship
- See Note 1

- PSY 214 - Abnormal Psychology
- PSY 227 - Learning and Behavior

### Spring Semester 16 Credits

- ASA 240 - Cultural Competencies in Chemical Dependency Studies
- ASA 250 - Ethical Principles/Practices in Chemical Dependency Treatment
- ASA 255 - Chemical Dependency and the HIV/AIDS Population
- ASA 260 - Pharmacology and Chemical Dependency
- ASA 320 - Supervised Clinical Internship  
See Note 1
- ENG 220 - Communicating About Ideas and Values
- MAT 124 - Statistics I

## GRADUATION REQUIREMENTS: 65 CREDITS

### Notes

Students must take two Writing Emphasis W courses after ENG 110 and before ENG 220.

#### <sup>1</sup> **Criteria for Internships:**

Academic performance is not the only criterion for entrance into the internship component of the program. Professional and experiential considerations determine the appropriateness, performance expectations, and overall suitability of potential student interns. The coordinator and the chairperson of the Psychology, and Human Services Department and the ASA faculty may determine that a given student is not personally ready for internship in a given semester, even though that student has completed all the academic prerequisites for the course, and may not permit the student access to the internship until the problem in question has been adequately addressed.

Additionally, field supervisors at the provider agency may reject a candidate at the application interview for reasons they deem clinically appropriate and which they determine would make the student inappropriate for placement in that agency at that time, e.g., students not being able to comply with agency schedule. Field supervisors may also remove a student already accepted at any time during the internship if it is determined that the student is resistant to supervision, or poses a potential threat/danger to clients, or violates any aspect of the ethical code of conduct.

#### REQUIRED PRIOR TO INTERNSHIP:

1. Physical Exam
2. TB test (PPD) and any follow up recommendations relative to the results
3. Rubella titer test and Rubella immunization if titer is negative
4. Hepatitis B immunization or a signed declination statement

TRANSPORTATION RELATED TO INTERNSHIP PLACEMENT: Students will be responsible for providing their own transportation to agencies where they are assigned for clinical internship. Attempts will be made to accommodate clinical placement preferences when feasible and when academically



appropriate. However, students should be prepared to travel to their internship placement when and wherever necessary.

**FOLLOWING CLINICAL AGENCY POLICY DURING INTERNSHIP PLACEMENT:** Students will be expected to comply with clinical agency policies in order to gain and maintain internship status. Such policies may include, for example, testing for tuberculosis, drug screening or policies about intern/employee drug use.

Registration is predicated on the number of internships available each semester that ASA 310/320 is offered. No guarantee exists that the number of internships will be equal to the number of students eligible for placement. The coordinator of the Chemical Dependency Program and the Chairperson of the Department of Psychology and Human Services reserve the right to deny a student an internship due to a lack of availability of a placement.

## **Communications and Media Arts: A.S.**

### *Associate in Science Transfer Program*

The Program of instruction in Communications and Media Arts comprises theoretical and practically oriented course offerings in audio and video production, photography, film, acting, and various types of communication. Communications courses emphasize acquisition of both technical proficiency and theoretical knowledge.

The Program aims, on the one hand, to prepare graduates for immediate employment in a number of communications-related occupations, and on the other hand, for transfer to baccalaureate degree programs.

Graduates entering the job market after earning the associate degree will seek employment as production assistants, educational media technicians, media sales representatives, writers, on-air personalities, and photographers, as well videographers, cinematographers, editors, and news personnel.

Those transferring to upper division colleges will major in audio-visual technology, film and photography, technical communications, radio and TV broadcasting, journalism, graphic reproduction, acting, and advertising. Subsequently, they will seek employment as photographers, filmmaker/cinematographers, scriptwriters, media producers, broadcasters, newspaper reporters, studio technicians, instructional media specialists, video and audio engineers, copy writers, media directors, actors, production media specialists, and sales or marketing managers.

**SEQUENCE OF COURSES:** This model is a two-year course schedule (leading to an A.S. degree) for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.

### **Program supervised by:**

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## FIRST YEAR

### Fall Semester 16-17 Credits

- Mathematics Credits: 3-4 - [Students transferring to a four-year college are advised to complete MAT 136 or MAT 124]
- Physical Education (cardiovascular) Credit: 1
- COM 100 - Introduction to Mass Media
- ENG 110 - College Writing I
- HIS 100 - The Rise of the West: 1500-Present

Choose 1 of the following Art, Communications, and Theater courses Credits: 3

- ART 112 - Beginning Photography
- COM 125 - Introduction to Audio Theory and Production
- COM 130 - Introduction to Video Theory and Production
- COM 205 - Introduction to Filmmaking
- THR 140 - Announcing for Radio/TV
- THR 266 - Acting for TV, Film, and Commercials

### Spring Semester 16 Credits

- Laboratory Science Credits: 4
- Civic Education Credits: 3 - [HIS 130 or HIS 131 recommended for transfer]
- SOS 155 - Media and Society

Choose 2 of the following Art, Communications, and Theater courses Credits: 6

- ART 125 - Introduction to Computer Graphics
- ART 212 - Intermediate Photography
- COM 130 - Introduction to Video Theory and Production
- COM 150 - Public Relations
- COM 210 - Advanced Video Production
- THR 276 - Rehearsal and Performance for Television

## SECOND YEAR

### Fall Semester 15 Credits

- Communications Credits: 6
- BIT 180 - Computers and Communications - or approved elective
- COM 200 - Image Theory for Film, Photography, and Television
- SPK 110 - Effective Speaking

### Spring Semester 15 Credits

- Communications Credits: 6
- COM 115 - Writing for the Media  
Or
- COM 116 - Writing for Broadcasting
- COM 240 - Mass Media Research
- ENG 220 - Communicating About Ideas and Values

## MINIMUM GRADUATION REQUIREMENTS: 62 CREDITS

### Notes

Students must take two Writing Emphasis W courses after ENG 110 and before ENG 220.

Course substitutions may be made with the approval of the Program Coordinator.

COM 299 Independent Study and COM250/COM255 Communications Internships are available upon approval of the Program Coordinator

## Early Childhood: A.A.S.

### *Associate in Applied Science*

The Early Childhood program leads to an Associate in Applied Science degree and is designed to prepare graduates for immediate employment or to enhance the skills and advancement opportunities of those already employed.

Some Early Childhood Education courses may meet requirements for the Child Development Associate (CDA) credentials. ECE 110 - Introduction to Early Education (3 credits), ECE 175 - Techniques of Observation and Evaluation (3 credits), and ECE 120 - Curriculum Development (3 credits) are recommended.

A certificate in Early Childhood may be awarded with successful completion of the first two semesters of coursework.

Teacher Certification transfer students should enroll as Liberal Arts: General Studies - Education (LAGS EDU) students for an A.S.degree.

Some Early Childhood Education courses may transfer for those seeking early childhood teacher certification. Verify with transfer institution.

**SEQUENCE OF COURSES: This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.**

**Program supervised by:**

Lenny D. Grozier, M.S. Ed.

Teacher Education and Early Childhood Education Department

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## FIRST YEAR

### Fall Semester 16 Credits

- COL 105 - Academic Planning Seminar
- ECE 110 - Introduction to Early Education  
[a minimum of 12 field and community service experience hours are required in this course]
- ECE 175 - Techniques of Observation and Evaluation  
[a minimum of 24 field and community service hours are required in this course]
- ENG 110 - College Writing I
- PSY 110 - General Psychology
- HIS 100 - The Rise of the West: 1500-Present  
Or
- HIS 130 - United States History I  
Or
- HIS 131 - United States History II

### Spring Semester 16-17 Credits

- Early Childhood Education Credits: 3
- Mathematics [MAT 113 or higher] Credits: 3-4
- Physical Education (cardiovascular) Credit: 1
- ECE 120 - Curriculum Development  
[a minimum of 24 field and community service experience hours are required in this course]
- ENG 111 - College Writing II
- PSY 211 - Child Development

Notes

Early Childhood students completing these courses may file for a certificate.

SECOND YEAR

Fall Semester 16-17 Credits

- Early Childhood Education Credits: 3
- Civic Education [ECO 111, POS 201, HIS 130, HIS 131, SOS 111, SOS 120, SOC 110, or SOC 111] Credits: 3
- Laboratory Science [BIO 111, BIO 131, or PHS 111-117] Credits: 3-4
- Art or Humanities Credits: 3
- ECE 200W - Field Experience I  
[a minimum of 96 field and community service experience hours are required in this course]

Spring Semester 16 Credits

- Early Childhood Education Credits: 3
- Early Childhood Education or ECE related course [LIT 263, SOC 230, ASL 120, PHI 201, PSY 223 or other course approved by the Department Chair] Credits: 3
- ECE 201 - Field Experience II  
[a minimum of 96 field and community service experience hours are required in this course]
- ENG 220 - Communicating About Ideas and Values
- SPK 110 - Effective Speaking

MINIMUM GRADUATION REQUIREMENTS: 64 CREDITS

**Early Childhood: Certificate**

Students completing the first year of the Early Childhood program are eligible for a certificate. See Early Childhood A.A.S.

**Human Services: A.S.**

*Associate in Science*



Major changes in society have resulted in a need for human service professionals. Advancing technology, an aging population, economic factors, significant changes in the character and structure of the family, and other social trends contribute to this need. Human Services is a challenging career field that provides the opportunity for personal satisfaction through helping others.

The Human Services Program is designed for students interested in transferring to four-year institutions to earn a baccalaureate degree in the area of human services, counseling, or social work, and for students preparing for careers as paraprofessionals in educational and human services agencies upon completion of the Associate in Science degree. The program will also be useful for students currently employed in paraprofessional positions within human service agencies interested in continuing education.

The internship segment of the curriculum is an integral part of the student's learning process as it gives the student an opportunity to experience human services work and apply basic theoretical knowledge and helping skills covered in courses. Internships are available in a wide variety of health, human service, and school settings.

**Program supervised by:**

Margherita Rossi

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**See also: Chemical Dependency Counseling**

## FIRST YEAR

### Fall Semester 16 Credits

- Laboratory Science (BIO 131 recommended) Credits: 4
- ENG 110 - College Writing I
- HIS 130 - United States History I
- Or
- HIS 131 - United States History II
- PSY 110 - General Psychology
- SOC 110 - Introduction to Sociology

### Spring Semester 17-18 Credits

- Mathematics Credits: 3-4
- Humanities (Literature, Philosophy, Foreign Language) Credits: 3
- Physical Education (cardiovascular) Credit: 1
- Laboratory Science (BIO 132 recommended) Credits: 4
- Arts (Art, Music, Theater) Credits: 3
- ENG 111 - College Writing II
- Or Literature

## SECOND YEAR

### Fall Semester 15 Credits

- MAT 115 - Mathematics for General Education I  
Or
- MAT 116 - Mathematics for General Education II  
Or
- MAT 124 - Statistics I  
(Strongly recommended)
- PSY 214 - Abnormal Psychology
- PSY 217 - Introduction to Counseling Theory and Practice
- PSY 223 - Human Exceptionality and Its Assessment
- PSY 227 - Learning and Behavior

### Spring Semester 16 Credits

- ENG 220 - Communicating About Ideas and Values
- HMS 250 - Human Service Organizations
- HMS 290 - Human Service Field Experience  
See note 1
- SOC 250 - Introduction to Social Work

Choose 1 of the following Social Science courses Credits: 3

- POS 201 - Introduction to American Government
- SOS 111 - Public Policy

## GRADUATION REQUIREMENTS: 64-68 CREDITS

### Notes

Students must take two Writing Emphasis ("W") courses after ENG 110 and before ENG 220.

<sup>1</sup>Registration is predicated on the number of internships available each semester that HMS 290 is offered. No guarantee exists that the number of internships will be equal to the number of students eligible for placement. The course instructor and the department of Psychology and Human Services reserve the right to deny a student an internship due to a lack of availability of a placement.

# Music: A.S.

## *Associate in Science*

Students majoring in music may pursue four areas of study that will prepare them for transfer to senior institutions. These areas are: Music Education and Performance, Music Industry, Sound Engineering, and Music Therapy.

Students in this degree program are prepared to take transfer placement exams at senior institutions in the areas of written, and aural, theory and music performance, and generally achieve junior standing at baccalaureate degree granting institutions.

Students selecting music as a major are expected to be committed to a career in music and intrinsically motivated to meet high standards in: performance, aural skills, theory, and history.

### **Program Supervised by:**

Michael Kinney

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## Music Education and Performance A.S.

See note 1

### First Year 32 Credits

- Music Ensembles Credits: 2
- Approved Elective Credits: 3
- Approved General Education United States History, Western Civilization, or Other World Civilizations course Credits: 3
- ENG 110 - College Writing I
- MUS 101 - Introduction to Music
- MUS 105 - Music Theory I
- MUS 106 - Music Theory II
- MUS 108 - History of Music: Renaissance to 1800
- MUS 115 - Ear Training I
- MUS 116 - Ear Training II
- MUS 120 - Piano Class I
- MUS 121 - Piano Class II
- MUS 197 - Applied Music I
- MUS 198 - Applied Music II
- PSY 110 - General Psychology

### Second Year 33-34 Credits

- Music Ensembles Credits: 2
- Civic Education Credits: 3
- Lab Science Credits: 4
- Mathematics Credits: 3-4
- Physical Education (cardiovascular) Credit: 1
- ENG 220 - Communicating About Ideas and Values
- MUS 107 - Music Theory III
- MUS 111 - 19th Century Music
- MUS 112 - 20th Century Music
- MUS 117 - Ear Training III
- MUS 170 - Music and Computers
- MUS 185 - Beginning Guitar
- MUS 194 - Voice Class I
- MUS 297 - Applied Music III
- MUS 298 - Applied Music IV

## Music Industry Transfer to SUNY Oneonta A.S.

### First Year 35-36 Credits

- Mathematics Credits: 3-4
- Music Ensembles Credits: 2
- Approved General Education United States History, Western Civilization, or Other World Civilizations course Credits: 3
- BUS 110 - Introduction to Business
- BUS 141 - Marketing
- ENG 110 - College Writing I
- MUS 101 - Introduction to Music
- MUS 105 - Music Theory I
- MUS 106 - Music Theory II
- MUS 108 - History of Music: Renaissance to 1800
- MUS 120 - Piano Class I
- MUS 197 - Applied Music I
- MUS 198 - Applied Music II
- SPK 110 - Effective Speaking

### Second Year 32 Credits

- Music Ensembles Credits: 2
- Philosophy Credits: 3
- Laboratory Science - Biology or Chemistry Credits: 4
- Literature Credits: 3
- Physical Education (cardiovascular) Credit: 1

- BUS 118 - Business Law I
- BUS 246 - Principles of Management
- ECO 110 - Micro-Economics
- ENG 220 - Communicating About Ideas and Values
- MUS 111 - 19th Century Music
- MUS 112 - 20th Century Music
- MUS 115 - Ear Training I

## Music Therapy A.S.

### First Year 35-36 Credits

- Music Ensembles Credits: 2
- Mathematics Credits: 3-4
- Approved General Education United States History, Western Civilization, or Other World Civilizations course Credits: 3
- MUS 101 - Introduction to Music
- MUS 105 - Music Theory I
- MUS 106 - Music Theory II
- MUS 108 - History of Music: Renaissance to 1800
- MUS 120 - Piano Class I
- MUS 197 - Applied Music I
- MUS 198 - Applied Music II
- PSY 110 - General Psychology
- PSY 214 - Abnormal Psychology
- SPK 110 - Effective Speaking
- ENG 110 - College Writing I

### Second Year 32 Credits

- Music Ensembles Credits: 2
- Philosophy Credits: 3
- Literature Credits: 3
- Physical Education (cardiovascular) Credit: 1
- MUS 111 - 19th Century Music
- MUS 112 - 20th Century Music
- MUS 115 - Ear Training I
- PSY 217 - Introduction to Counseling Theory and Practice
- PSY 223 - Human Exceptionality and Its Assessment
- ECO 110 - Micro-Economics
- BIO 131 - Human Biology I
- ENG 220 - Communicating About Ideas and Values



# Sound Engineering A.S.

## First Year 35-36 Credits

- Music Ensembles Credits: 2
- Mathematics Credits: 3-4
- ENG 110 - College Writing I
- HIS 100 - The Rise of the West: 1500-Present
- MUS 101 - Introduction to Music
- MUS 105 - Music Theory I
- MUS 106 - Music Theory II
- MUS 108 - History of Music: Renaissance to 1800
- MUS 120 - Piano Class I
- MUS 160 - Sound Engineering I
- MUS 161 - Sound Engineering II
- MUS 197 - Applied Music I
- MUS 198 - Applied Music II
- SPK 110 - Effective Speaking

## Second Year 32 Credits

- Music Ensembles Credits: 2
- Philosophy Credits: 3
- Laboratory Science - Biology or Chemistry Credits: 4
- Literature Credits: 3
- Physical Education (cardiovascular) Credit: 1
- ECO 110 - Micro-Economics
- ENG 220 - Communicating About Ideas and Values
- MUS 111 - 19th Century Music
- MUS 112 - 20th Century Music
- MUS 115 - Ear Training I
- MUS 260 - Sound Engineering III
- MUS 261 - Sound Engineering IV

## MINIMUM GRADUATION REQUIREMENTS: 65-67 CREDITS

### Note

<sup>1</sup>The New York State Education Department requires that students seeking certification to teach Elementary School select and take a sequence of courses in an academic concentration/minor.

# Individual Studies: A.S.

## *Associate in Science Degree <sup>1</sup>*

Students whose academic goals cannot be attained through existing programs may be allowed to structure individualized degree programs. Qualified students develop, with an advisor, an "area of concentration." *This area of concentration must be a cohesive program of study clearly related to employment or upper division academic goals.*

Completion of the Individual Studies Program can lead to an Associate in Science (AS) or Associate in Applied Science (AAS) degree. The degree will depend upon the student's future academic and/or career goals. The AS degree program is designed for baccalaureate transfer, and the AAS degree is designed for immediate employment and professional development. *Admission into the Program requires that the student develop a Plan of Studies that is approved by the Program coordinator.*

This is not a program for students unsure of their goals or simply exploring several areas of study.

For additional information, contact the Program Supervisor.

### **Program supervised by:**

Douglas Garnar

Office: Titchener Hall, 211B

Telephone: 607 778-5378

E-mail: garnar\_d@sunybroome.edu

## Requirements

Student's Area of Concentration: 30-33 Credits

English, Humanities, Natural Sciences, Mathematics and Social Sciences 30 Credits

Distributed as follows:

Humanities 9 Credits

- ENG 110 - College Writing I
- ENG 111 - College Writing II
- ENG 220 - Communicating About Ideas and Values

Social Science 6 Credits

(3 must be designated Civic Education courses) <sup>2</sup>

## Mathematics

*Mathematics Requirements* (High School Background) Grade of 85 or higher on high school Course III Regents exam or Math B exam, or successful completion of high school Math 12 meets SUNY Gen. Ed. and BCC requirement.

- MAT 115 - Mathematics for General Education I  
and
- MAT 116 - Mathematics for General Education II  
or
- MAT 124 - Statistics I  
or
- MAT 136 - College Algebra and Trigonometry I  
or higher

## Laboratory Science 8 Credits

## Liberal Arts

Electives to make 63 credit total

## Physical Education 2 Credits

One Credit minimum from:

- PED 118 - Personal Fitness (CV)
- PED 119 - Personal Fitness (CV)
- PED 127 - Jogging (CV)
- PED 135 - Jazz Dance I (CV)
- PED 137 - Jazz Dance II (CV)
- PED 143 - Cross-Country Skiing (CV)
- PED 144 - Aerobics (CV)
- PED 146 - Aerobics (CV)
- PED 147 - Soccer (Women) (CV)
- PED 148 - Soccer (Men) (CV)
- PED 173 - Fitness Walking (CV)

Total Credits: 63

## Notes

**A Liberal Arts certificate is available.**

<sup>1</sup>Students in both AS and AAS programs must satisfy General Education requirements.

NOTE: Two Writing Emphasis Courses are required after ENG 110 and before ENG 220

NOTE: Students interested in General Studies sequences in Art and Design, Elementary Education, Music and Theatre should refer to General Studies sequences in Liberal Arts and Related Careers Programs.

## Liberal Arts and Sciences: A.A.

### *Associate in Arts*

Liberal Arts and Sciences offers traditional university-parallel programs — the Associate in Arts and the Associate in Science — to students aspiring to baccalaureate degree study. Graduates transfer to institutions throughout the State University of New York (SUNY) system and to public and private colleges in New York and other states. If students transfer to an institution within SUNY, they will bring with them completion of all SUNY General Education requirements.

A.A. or A.S. degree recipients are prepared for transfer to four-year colleges and universities within SUNY by completing all categories of the SUNY General Education requirements. A complete listing of approved General Education courses is available through the SUNY Provost site at:

<http://www.sysadm.suny.edu/provost/generaleducation/CourseList/BroomeGERCourses.pdf>

Students should learn as much as they can about program requirements at transfer colleges. Transfer to some colleges is guaranteed through an **articulation agreement** between BCC and the transfer institution. Articulation agreements can be viewed through the BCC website at:

<http://www.sunybroome.edu/services/counseling/articulation.php>

### **Program supervised by:**

Dean of Liberal Arts

Office: Titchener Hall, Room 210

Telephone: 607 778-5021

## Requirements

### Academic Planning Seminar 1 Credit

Required for all first-time students

- COL 105 - Academic Planning Seminar

### English 6 Credits

- ENG 110 - College Writing I
- ENG 111 - College Writing II

## History of Western Civilization and Other World Civilizations 6 Credits

- HIS 116 - The West and the World to 1500
- HIS 117 - The West and the World Since 1500

Or

Choose one from each group:

### Group One

- HIS 100 - The Rise of the West: 1500-Present
- HIS 155 - War and the Western World
- HIS 156 - Nature and Western Civilization
- HUM 101 - Western Humanities I
- HUM 102 - Western Humanities II

### Group two

- HIS 141 - History of Modern Latin America and the Caribbean
- HIS 163 - Introduction to Chinese Civilization
- HIS 164 - Introduction to Japanese Civilization

## United States History 3 Credits

>Students with less than 85 on the Regents United States History Exam must choose from the following courses.

- HIS 130 - United States History I
- Or
- HIS 131 - United States History II
- Or

- HIS 194 - Survey in African American History

>Students with 85 or greater on the Regents United States History Exam may choose from the following courses to fulfill the SUNY General Education United States History requirements.

>Or

- HIS 175 - Local History
- HIS 183 - Women's History



- HIS 187 - The United States Civil War: Causes and Effects
- HIS 188 - Vietnam and America
- HIS 189 - First Peoples: Native American History

## Foreign Language 0-8 Credits

Students with four (4) years of a high school Foreign Language or with a grade of 85 or higher on a Regents Foreign Language Exam have fulfilled the BCC Foreign Language requirement and the SUNY General Education Foreign Language requirement and are exempted from taking a Foreign Language course at the Associate's level.

However,

- students exempted from the Foreign Language requirement are cautioned that programs at transfer schools may require Foreign Language courses beyond the SUNY General Education requirement.
- exemption from a Foreign Language does not lower the total LAAA degree program credit-hour requirement for students. Exempted students will need to take additional elective credits.

Students with two (2) years or fewer of a high school Foreign Language should take a course at the Beginning I level (101); all others should take a course at the Beginning II level (102).

Choose from courses in Arabic (ARA), French (FRE), German (GER), Italian (ITA), or Spanish (SPA). A small number of transfer institutions accept American Sign Language (ASL) as a Foreign Language.

## Mathematics 0-6 Credits

Students with a grade of 85 or higher on the high school Course III Regents Exam or Math B Exam or students that successfully completed high school Math 12, have fulfilled both the BCC Mathematics requirement and the SUNY General Education Mathematics requirement and are exempt from taking a Mathematics course at the Associate's level.

However,

- students exempted from the Mathematics requirement are cautioned that programs at transfer institutions may require Mathematics courses beyond the SUNY General Education requirement.
- exemptions from Mathematics does not lower the total LAAA degree program credit-hour requirement for students. Exempted students will need to take additional elective credits.

Some students will require remedial coursework prior to enrolling in courses that fulfill the SUNY General Education Mathematics requirement.

Unless exempted students must choose from the following courses to fulfill the SUNY General Education Mathematics requirement:

- MAT 115 - Mathematics for General Education I  
And
- MAT 116 - Mathematics for General Education II

Or

- MAT 124 - Statistics I

Or

- MAT 136 - College Algebra and Trigonometry I

Or higher

## Natural Sciences (Laboratory Sciences) 8 Credits

### Approved sequences in Biology

- BIO 111 - General Biology I (non-science majors)

Or

- BIO 112 - General Biology II

- BIO 117 - Principles of Biology I (science majors)

Or

- BIO 118 - Principles of Biology II

- BIO 131 - Human Biology I

Or

- BIO 132 - Human Biology II

### Chemistry

- CHM 123 - Environmental Science
- CHM 124 - Environmental Science II
- CHM 141 - General, Organic, and Biochemistry I
- CHM 142 - General, Organic and Biochemistry II
- CHM 145 - Chemistry I
- CHM 146 - Chemistry II

### Physics

- PHY 161 - Physics I: Mechanics and Heat
- PHY 162 - Physics II: Wave Motion, Electromagnetism, and Atomic Physics

Or

Choose two of the following:

- BIO 200 - Ecology: The Everglades
  - ANT 112 - Introduction to Archaeology
  - ANT 113 - Introduction to Biological Anthropology
  - CHM 120 - Fundamental Chemistry
  - CHM 121 - Forensic Sciences
  - PHS 113 - Astronomy - Exploring the Universe
  - PHS 115 - Physical Geology: The Dynamic Earth
  - PHS 116 - Global Warming: Energy and the Environment
  - PHS 123 - Natural Disasters
  - PHS 125 - Historical Geology: The History of Life and Planet Earth
- Selection may depend on transfer institution

## Humanities 9 Credits

### Humanities and Philosophy

Choose one of the following courses:

- HUM 101 - Western Humanities I
- HUM 102 - Western Humanities II
- HUM 103 - The Shock of the New: 20th Century Culture
- HUM 104 - Introduction to Classical Mythology
- PHI 102 - General Philosophy
- PHI 104 - Philosophy of Religion
- PHI 105 - World Religions
- PHI 201 - Ethics: Moral Philosophy
- PHI 203 - Philosophical Issues in American Education
- PHI 206 - Social and Political Philosophy

### Literature

All Literature courses are Writing Emphasis (W) courses. Choose one of the following courses:

- LIT 200 - Introduction to Literature
- LIT 201 - Crime and Punishment
- LIT 210 - Studies in United States Literature I
- LIT 211 - Studies in United States Literature II
- LIT 214 - Studies in British Literature I
- LIT 215 - Studies in British Literature II
- LIT 220 - The Short Story
- LIT 225 - United States Latino Literature
- LIT 230 - American Drama
- LIT 233 - World Drama
- LIT 235 - Shakespeare

- LIT 240 - The Poetic Experience: Sight and Sound
- LIT 250 - Women and Literature: Other Perspectives
- LIT 253 - Psychological Investigation in Literature
- LIT 260 - Detective Fiction
- LIT 263 - Children's Literature
- LIT 264 - World Folktales: The Art of Storytelling
- LIT 267 - An Introduction to Science Fiction
- LIT 270 - Twentieth-Century Working-Class Literature of North America
- LIT 272 - Literature of the North American Wild
- LIT 274 - Introduction to African American Literature
- LIT 276 - Native American Literature
- LIT 277 - Introduction to Irish Literature
- LIT 280 - The Short Novel
- LIT 285 - Autobiography
- LIT 290 - Banned Books
- LIT 291 - Folklore and Fantasy
- LIT 294 - Envirolit
- LIT 295 - Literature and Film
- LIT 297 - World Literature I
- LIT 298 - World Literature II

## Capstone Course

- ENG 220 - Communicating About Ideas and Values

## Physical Education 1-2 Credits

No more than 2 credits can be used to fulfill the LAAA degree program credit requirements for students. At least 1 credit must be earned in one of the following cardiovascular courses or in a varsity sport. (CV = cardiovascular)

- PED 103 - Backpacking (CV)
- PED 106 - Badminton (CV)
- PED 107 - Ballet I (CV)
- PED 110 - Basic Ice Skating (CV)
- PED 118 - Personal Fitness (CV)
- PED 119 - Personal Fitness (CV)
- PED 127 - Jogging (CV)
- PED 130 - Karate (CV)
- PED 135 - Jazz Dance I (CV)
- PED 137 - Jazz Dance II (CV)
- PED 140 - Dance Pilates
- PED 143 - Cross-Country Skiing (CV)
- PED 146 - Aerobics (CV)

- PED 155 - Trim and Tone (CV)
- PED 169 - Tennis (CV)
- PED 172 - Volleyball (CV)
- PED 173 - Fitness Walking (CV)  
or Varsity Sport

### Art, Music, Theater 3 Credits

Choose from courses in Art (ART), Communications and Media Arts (COM), Creative Writing (ENG), Music (MUS), and Theater (THR). Consult the SUNY General Education List (The ARTS - GE 8) to ensure that selection fulfills the General Education requirement. Link to General Education List:

<http://www.sysadm.suny.edu/provost/generaleducation/CourseList/BroomeGERCourses.pdf>

### Social Science / Civic Education 3 Credits

Choose one of the following courses:

- CTP 275 - Community Internship (3 credits)
- ECO 110 - Micro-Economics
- ECO 111 - Introduction to Macro-Economics
- HIS 130 - United States History I
- HIS 131 - United States History II
- POS 201 - Introduction to American Government
- POS 204 - American State and Local Government
- SOC 110 - Introduction to Sociology
- SOC 111 - Social Problems
- SOS 101 - Contemporary World Issues
- SOS 111 - Public Policy
- SOS 120 - Science, Technology, and Democratic Society

### Social / Behavioral Science 3 Credits

Choose from courses in Anthropology (ANT), Economics (ECO), Geography (GEO), Political Science (POS), Psychology (PSY), Social Science (SOS), and Sociology (SOC).

### Approved Electives 8-24 Credits

Selections based on number of credits needed to fulfill the total LAAA degree program credit-hour requirement for students.

Total number of credits: 64 minimum

## Liberal Arts and Sciences: A.S.



*Associate in Science: Science Option Transfer Program*

This program is designed for students planning careers in biology, forest science, chemistry, the physical sciences, medicine, dentistry, and related fields.

**SEQUENCE OF COURSES:** This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.

**Program supervised by:**

Dean of Liberal Arts  
Office: Titchener Hall, Room 210  
Telephone: 607 778-5021

FIRST YEAR

Academic Planning Seminar 1 Credit

Required for all first-time students.

- COL 105 - Academic Planning Seminar

English 6 Credits

- ENG 110 - College Writing I
- ENG 111 - College Writing II

History of Western Civilization and Other World Civilizations 6 Credits

- HIS 116 - The West and the World to 1500
- HIS 117 - The West and the World Since 1500

Or

Choose one from each group:

Group One

- HIS 100 - The Rise of the West: 1500-Present
- HIS 155 - War and the Western World

- HIS 156 - Nature and Western Civilization
- HUM 101 - Western Humanities I
- HUM 102 - Western Humanities II

## Group Two

- HIS 141 - History of Modern Latin America and the Caribbean
- HIS 163 - Introduction to Chinese Civilization
- HIS 164 - Introduction to Japanese Civilization

## Mathematics 0-4 Credits

- >Required:
  - MAT 156 - Algebra and Trigonometry for Calculus
- >Useful to students planning for some Science careers:
  - MAT 181 - Calculus I
  - MAT 182 - Calculus II
- >Strongly recommended for transfer to baccalaureate level science programs:
  - MAT 124 - Statistics I

## 2 Laboratory Science Sequences 16 Credits

For those planning careers in medicine, veterinary medicine, dentistry, forest biology, marine biology, pharmacy, or forest chemistry:

- BIO 117 - Principles of Biology I
- BIO 118 - Principles of Biology II
- And
- CHM 145 - Chemistry I
- CHM 145L - Chemistry I Laboratory
- CHM 146 - Chemistry II
- CHM 146L - Chemistry II Laboratory

## Physical Education 1-2 Credits

No more than 2 credits can be used to fulfill the LAAS degree program credit requirements for students. At least 1 credit must be earned in one of the following cardiovascular courses or in a varsity sport. (CV = cardiovascular)

- PED 103 - Backpacking (CV)
- PED 106 - Badminton (CV)
- PED 107 - Ballet I (CV)
- PED 110 - Basic Ice Skating (CV)

- PED 118 - Personal Fitness (CV)
- PED 119 - Personal Fitness (CV)
- PED 127 - Jogging (CV)
- PED 130 - Karate (CV)
- PED 135 - Jazz Dance I (CV)
- PED 137 - Jazz Dance II (CV)
- PED 140 - Dance Pilates
- PED 143 - Cross-Country Skiing (CV)
- PED 146 - Aerobics (CV)
- PED 155 - Trim and Tone (CV)
- PED 169 - Tennis (CV)
- PED 172 - Volleyball (CV)
- PED 173 - Fitness Walking (CV)  
or Varsity Sport

## SECOND YEAR

### Arts (ART, MUS, THR) or Humanities (HUM, LIT, PHI) 3 Credits

Choose from courses in Art (ART), Communications and Media Arts (COM), Creative Writing (ENG), Humanities (HUM), Literature (LIT), Music (MUS), Philosophy (PHI), and Theater (THR). Consult the SUNY General Education List (The ARTS - GE 8) to assure that selection fulfills the General Education requirement. Link to General Education List:

<http://www.sysadm.suny.edu/provost/generaleducation/CourseList/BroomeGERCourses.pdf>

### Capstone Course 3 Credits

- ENG 220 - Communicating About Ideas and Values

### Social Science/Civic Education 3 Credits

Choose one of the following courses:

- CTP 275 - Community Internship
- ECO 110 - Micro-Economics
- ECO 111 - Introduction to Macro-Economics
- HIS 130 - United States History I
- HIS 131 - United States History II
- POS 201 - Introduction to American Government
- POS 204 - American State and Local Government
- SOC 110 - Introduction to Sociology

- SOC 111 - Social Problems
- SOS 101 - Contemporary World Issues
- SOS 111 - Public Policy
- SOS 120 - Science, Technology, and Democratic Society

## 2 Laboratory Science Sequences 16-18 Credits

For those planning careers in medicine, veterinary medicine, dentistry, forest chemistry, forest biology, marine biology, or pharmacy.

- CHM 245 - Organic Chemistry I
- CHM 245L - Organic Chemistry I Laboratory
- CHM 246 - Organic Chemistry II
- CHM 246L - Organic Chemistry II Laboratory
- And
- PHY 161 - Physics I: Mechanics and Heat
- PHY 162 - Physics II: Wave Motion, Electromagnetism, and Atomic Physics

## Foreign Language 0-8 Credits

Students with four (4) years of a high school Foreign Language or with a grade of 85 or higher on a Regents Foreign Language exam have fulfilled the BCC Foreign Language requirement and the SUNY General Education Foreign Language requirement and are exempted from taking a Foreign Language course at the Associate's level.

However,

- students exempted from the Foreign Language requirement are cautioned that programs at transfer schools may require Foreign Language courses beyond the SUNY General Education requirement.
- exemption from a Foreign Language does not lower the total LAAS degree program credit-hour requirement for students. Exempted students will need to take additional elective credits.

Students with two (2) years or fewer of high school Foreign Language should take a course at the Beginning I level (101); all others should take a course at the Beginning II level (102).

Choose from courses in Arabic (ARA), French (FRE), German (GER), Italian (ITA), or Spanish (SPA). A small number of transfer institutions accept American Sign Language (ASL) as a Foreign Language.

## Approved Electives 0-14 Credits

Electives only as needed to fulfill the total LAAS degree program credit-hour requirements for students.

Total number of credits: 64 minimum

# Liberal Arts: Certificate

## Certificate

Liberal Arts offers a 24-credit certificate for students seeking a short-term program to meet personal and professional goals. Matriculated students may use this certificate to meet the 18-credit requirement for New York State Teaching Assistant.

### **Program supervised by:**

Lenny D. Grozier, M.S. Ed.

Teacher Education and Early Childhood Education Department

Office: Titchener Hall, 210G

Telephone: 607 785-5029

E-mail: grozier\_l@sunybroome.edu

## Requirements

### English 3 Credits

- ENG 110 - College Writing I

### History 3 Credits

Choose 2 of the following History courses:

- HIS 100 - The Rise of the West: 1500-Present
- HIS 116 - The West and the World to 1500
- HIS 117 - The West and the World Since 1500
- HIS 130 - United States History I
- HIS 131 - United States History II

### Math/Science 3-4 Credits

- Laboratory Science

Or

- MAT 113 - Mathematical Explorations I  
Or higher

### Humanities 3 Credits



Choose from courses in Art (ART) and Design (INT), Humanities (HUM), Literature (LIT), Music (MUS), Philosophy (PHI), Speaking (SPK), and Theater (THR) or a Foreign Language course (including American Sign Language).

### Social Science 3 Credits

Choose from courses in Political Science (POS), Psychology (PSY), Social Science (SOS), or Sociology (SOC).

### Approved Electives 9 Credits

(Three credits may be outside Liberal Arts with advisor approval)

Total Number of Credits: 24 Minimum

## Liberal Arts: General Studies A.S.

*Associate in Science Transfer Programs (Art and Design, Theater, and Teacher Education)*

The aim of the Liberal Arts General Studies (LAGS) Program is to provide students with a broader range of curricular choices so that, under the guidance of faculty advisers, they can align their Associate degrees more closely with programs at senior institutions. The intent is to allow students with clear academic and/or career goals to structure their Associate degree programs so as to transfer as juniors to senior colleges, needing only four additional semesters to complete the baccalaureate degree. General Education courses totaling 30 to 34 credits are required of General Studies (AS) students, leaving a like number of elective credits. The total number of credits needed to fulfill the LAGS degree program credit hour requirement for students is 64.

**Teacher Education Students: see "Teacher Preparation and Certification"**

#### **Program supervised by:**

Patricia Evans

Art and Design

Office: Science Building, Room 215

Telephone: 607 778-5209

E-mail: evans\_p@sunybroome.edu

Katherine Bacon

Theater

Office: Student Center, Little Theatre

Telephone: 607 778-5191

E-mail: bacon\_k@sunybroome.edu

Lenny D. Grozier, M.S. Ed.

Teacher Education

Office: Titchener Hall, Room 210G

Telephone: 607 778-5029  
E-mail: grozier\_l@sunybroome.edu

## Art and Design: Art History Sequence

### FIRST YEAR

- Approved General Education United States History, Western Civilization, or Other World Civilizations course Credits: 3
- Physical Education (cardiovascular) Credit: 1
  
- ART 105 - Introduction to Two-Dimensional Design
- ART 106 - Introduction to Three-Dimensional Design
- ART 107 - Color Theory
- ART 115 - Beginning Drawing
- ENG 110 - College Writing I
- ENG 111 - College Writing II  
Or Literature elective

### Social/Behavioral Science 3-4 Credits

Choose 1 of the following courses:

- ANT 111 - Introduction to Cultural Anthropology
- ANT 112 - Introduction to Archaeology
- ANT 114 - Language, Culture, and Communication
- PSY 110 - General Psychology

### Art History 9 Credits

Choose 3 of the following Art History courses:

- ART 102 - History of Western Art I
- ART 103 - History of Western Art II
- ART 104 - History of Asian Art
- ART 108 - History of Architecture I
- ART 109 - History of Architecture II
- ART 110 - Modern Art
- ART 111 - History of Decorative Arts: 1600-Present
- ART 113 - History of Modern Design
- ART 114 - The History of Art and the Human Figure
- ART 146 - History of Photography

Total 33-34 Credits

## SECOND YEAR

- Foreign Language Credits: 0-8 - [Students with four (4) years of high school Foreign Language or with a grade of 85 or higher on a Regents Foreign Language Exam are exempted.]
- Mathematics elective Credits: 0-6
- Laboratory Science Credits: 3-4
- ART 125 - Introduction to Computer Graphics
- ENG 220 - Communicating About Ideas and Values

## Art History 6-9 Credits

Choose 2 or 3 of the following Art History courses:

- ART 102 - History of Western Art I
- ART 103 - History of Western Art II
- ART 104 - History of Asian Art
- ART 108 - History of Architecture I
- ART 109 - History of Architecture II
- ART 110 - Modern Art
- ART 111 - History of Decorative Arts: 1600-Present
- ART 113 - History of Modern Design
- ART 114 - The History of Art and the Human Figure
- ART 146 - History of Photography

Total 15-33 Credits

## Art and Design: Graphic Arts Sequence

## FIRST YEAR

- Approved General Education United States History, Western Civilization, or Other World Civilizations course Credits: 3
- Physical Education (cardiovascular) Credit: 1
- ART 105 - Introduction to Two-Dimensional Design

- ART 106 - Introduction to Three-Dimensional Design
- ART 107 - Color Theory
- ART 115 - Beginning Drawing
- ART 125 - Introduction to Computer Graphics
- ENG 110 - College Writing I
- ENG 111 - College Writing II  
Or Literature elective

Social/Behavioral Science elective: Choose one of the following

- ANT 111 - Introduction to Cultural Anthropology
- ANT 112 - Introduction to Archaeology
- ANT 114 - Language, Culture, and Communication
- PSY 110 - General Psychology

Total 27-28 Credits

## SECOND YEAR

- Mathematics Credits: 0-6
- Laboratory Science elective Credits: 3-4
- ART 112 - Beginning Photography  
Or
- ART 140 - Printmaking
- ART 116 - Painting I
- ART 217 - Advanced Drawing  
Or
- ART 225 - Illustration
- ART 226 - Advanced Computer Imagery  
Or
- ART 227 - Editorial Design  
Or
- ART 228 - Animation I
- COM 100 - Introduction to Mass Media  
Or
- COM 200 - Image Theory for Film, Photography, and Television  
Or  
Approved elective
- ENG 220 - Communicating About Ideas and Values

Total 21-28 Credits

## Art and Design: Interior Design/Environmental Design Sequence

### FIRST YEAR

- Physical Education (cardiovascular) Credit: 1
- ART 105 - Introduction to Two-Dimensional Design
- ART 106 - Introduction to Three-Dimensional Design
- ART 107 - Color Theory
- ART 111 - History of Decorative Arts: 1600-Present  
Or
- ART 113 - History of Modern Design
- ART 115 - Beginning Drawing
- ART 150 - Perspective Drawing  
Or
- ART 213 - Model Building
- CIV 105 - Introductory AutoCAD  
Or
- CIV 113 - Engineering Drawing I w/CAD  
Or
- CIV 119 - Architectural Drawing w/CAD  
Or
- CIV 159 - Architectural Drafting I w/CAD
- ENG 110 - College Writing I
- ENG 111 - College Writing II  
Or Literature elective
- INT 120 - Surface Materials for the Interior

### Social/Behavioral Science 3-4 Credits

Choose 1 of the following courses:

- ANT 111 - Introduction to Cultural Anthropology
- ANT 112 - Introduction to Archaeology
- ANT 114 - Language, Culture, and Communication
- PSY 110 - General Psychology

Total 30-33 Credits

### SECOND YEAR



- Approved General Education United States History, Western Civilization, or Other World Civilizations course Credits: 3
- Mathematics Credits: 0-6
- Laboratory Science elective Credits: 3-4
- ART 125 - Introduction to Computer Graphics
- ENG 220 - Communicating About Ideas and Values
- INT 110 - Interior Design Studio I  
Or
- INT 210 - Interior Design Studio II

Total 14-23 Credits

## Art and Design: Studio Art Sequence

Suggested Course Selections:

### FIRST YEAR

- Approved General Education United States History, Western Civilization, or Other World Civilizations course Credits: 3
- Physical Education (cardiovascular) Credit: 1
- ART 105 - Introduction to Two-Dimensional Design
- ART 106 - Introduction to Three-Dimensional Design
- ART 107 - Color Theory
- ART 115 - Beginning Drawing
- ART 116 - Painting I
- ART 140 - Printmaking  
>Or
- ART 215 - Painting II
- ART 217 - Advanced Drawing
- ENG 110 - College Writing I
- ENG 111 - College Writing II  
Or Literature elective

## Social/Behavioral Science 3-4 Credits

Choose 1 of the following courses:

- ANT 111 - Introduction to Cultural Anthropology
- ANT 112 - Introduction to Archaeology
- ANT 114 - Language, Culture, and Communication
- PSY 110 - General Psychology

Total 33-34 Credits

## SECOND YEAR

- Foreign Language Credits: 0-8 - [Students with four (4) years of a high school Foreign Language or with a grade of 85 or higher on a Regents Foreign Language Exam are exempted.]
- Mathematics Credits: 0-6
- Laboratory Science Credits: 3-4
- ART 120 - Beginning Sculpture  
Or
- ART 130 - Introduction to Ceramics: Construction and Glazes
- ART 125 - Introduction to Computer Graphics
- ART 215 - Painting II
- ENG 220 - Communicating About Ideas and Values

Total 15-30 Credits

Approved Electives

Theater/Acting Sequence

## FIRST YEAR

- Science or Mathematics Credits: 6-8
- Social Science or Civic Education Credits: 3
- ENG 110 - College Writing I
- HIS 100 - The Rise of the West: 1500-Present  
Or
- HIS 155 - War and the Western World  
Or
- HIS 156 - Nature and Western Civilization
- THR 101 - Theater Appreciation: The Image Makers  
Or
- THR 102 - Introduction to Musical Theatre
- THR 111 - Introduction to Acting  
Or

- THR 112 - Acting II  
Or
- THR 114 - Oral Interpretation
- THR 151 - Technical Production I  
Or
- THR 152 - Technical Production II
- THR 221 - History of the Theater
- THR 246 - Rehearsal and Performance for Stage

## Physical Education (cardiovascular) 1 Credit

Choose 1 of the following:

- PED 107 - Ballet I (CV)
- PED 135 - Jazz Dance I (CV)
- PED 137 - Jazz Dance II (CV)

Total 28-33 Credits

## SECOND YEAR

- Theater Credits: 3
- Literature Credits: 3
- Foreign Language or approved elective(s) Credits: 4-8
- Social/Behavioral Science Credits: 3
- THR 151 - Technical Production I  
Or
- THR 152 - Technical Production II
- THR 218 - Acting III
- THR 221 - History of the Theater  
Or
- THR 231 - Stage Direction
- THR 256 - Rehearsal and Performance for Stage
- THR 266 - Acting for TV, Film, and Commercials  
Or
- THR 276 - Rehearsal and Performance for Television
- ENG 220 - Communicating About Ideas and Values

Total 30-37 Credits

## Teacher Education Transfer Sequence Childhood

Apply to LAGS EDU (Grades 1 - 6)

The New York State Education Department requires that students seeking certification to teach Elementary School select and take a sequence of courses in an academic concentration/minor. The concentration is intended to enhance the students' academic backgrounds. Individual transfer institutions select from the concentrations approved by the Board of Regents. Check with the transfer institution before selecting a concentration. Each institution is unique in its offerings.

**SEQUENCE OF COURSES: This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.**

## FIRST YEAR

- Foreign Language [two semesters in the same language] Credits: 6-8
  - Humanities [recommend PHI 203] Credits: 3
  - COL 105 - Academic Planning Seminar
  - ENG 110 - College Writing I
  - ENG 111 - College Writing II
  - HIS 100 - The Rise of the West: 1500-Present
  - HIS 130 - United States History I
  - Or
  - HIS 131 - United States History II
  - PSY 110 - General Psychology
  - PSY 211 - Child Development
  - EDU 111 - Foundations of American Education
- [a minimum of 30 hours of field and community service experience hours are required in this course]

Total 31-33 Credits

## SECOND YEAR

- Art, Music, or Theater Credits: 3
- Physical Education (cardiovascular) Credit: 1
- Social Science or Civic Education Credits: 3
- Laboratory Science [i.e. PHS 112 and PHS 117] Credits: 8
- Elective in minor/concentration Credits: 3
- MAT 119 - Mathematics for Elementary Education I
- MAT 120 - Mathematics for Elementary Education II
- ENG 220 - Communicating About Ideas and Values

Total 27 Credits

Teacher Education Transfer Sequence Early Childhood

Apply as LAGS EDU (Birth through Grade 2 or Birth through Grade 6)

The New York State Education Department requires that students seeking certification to teach Elementary School select and take a sequence of courses in an academic concentration/minor. The concentration is intended to enhance the students' academic backgrounds. Individual transfer institutions select from the concentrations approved by the Board of Regents. Check with the transfer institution before selecting a concentration. Each institution is unique in its offerings.

**SEQUENCE OF COURSES: This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.**

## FIRST YEAR

- Foreign Language [two semesters in the same language] Credits: 6-8
- Humanities [recommend PHI 203] Credits: 3
- COL 105 - Academic Planning Seminar
- ENG 110 - College Writing I
- ENG 111 - College Writing II
- HIS 100 - The Rise of the West: 1500-Present
- HIS 130 - United States History I  
Or
- HIS 131 - United States History II
- PSY 110 - General Psychology
- PSY 211 - Child Development
- ECE 110 - Introduction to Early Education  
[a minimum of 12 field and community service experience hours are required in this course]
- ECE 175 - Techniques of Observation and Evaluation  
[a minimum of 24 field and community service experience hours are required in this course]

Total 34-36 Credits

## SECOND YEAR

- Art, Music, or Theater Credits: 3
- Physical Education (cardiovascular) Credit: 1
- Social Science or Civic Education Credits: 3
- Laboratory Science [i.e. PHS 112 and PHS 117] Credits: 8
- MAT 119 - Mathematics for Elementary Education I
- MAT 120 - Mathematics for Elementary Education II
- ENG 220 - Communicating About Ideas and Values
- ECE 120 - Curriculum Development  
[a minimum of 24 field and community service experience hours are required in this course]
- ECE 200W - Field Experience I  
Or
- ECE 201 - Field Experience II



[a minimum of 96 field and community service experience hours are required in each of these courses]

Total 31 Credits

## Teacher Education Transfer Sequence Middle Childhood/Adolescence

Apply as LAGS EDU (PreK - 12, 5 - 9, or 7 - 12)

**SEQUENCE OF COURSES:** This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.

### FIRST YEAR

- Foreign Language [two semesters in the same language] Credits: 6-8
- Humanities Credits: 3
- Elective in minor/concentration Credits: 3
- COL 105 - Academic Planning Seminar
- ENG 110 - College Writing I
- ENG 111 - College Writing II
- HIS 100 - The Rise of the West: 1500-Present
- HIS 130 - United States History I  
Or
- HIS 131 - United States History II
- PSY 110 - General Psychology
- PSY 212 - Adolescent Development

Total 31-33 Credits

### SECOND YEAR

- Art, Music, or Theater Credits: 3
- Physical Education (Cardiovascular) Credit: 1
- Social Science or Civic Education Credits: 3
- Laboratory Science sequence [i.e. BIO 111 and BIO 112] Credits: 8
- Elective in minor/concentration Credits: 3
- MAT 115 - Mathematics for General Education I  
And
- MAT 116 - Mathematics for General Education II  
Or
- MAT 124 - Statistics I  
Or higher

- ENG 220 - Communicating About Ideas and Values
- EDU 111 - Foundations of American Education  
[a minimum of 30 field and community service experience hours are required in this course]

Total 23 Credits

Note:

Students interested in constructing an Individual Studies Program should refer to Liberal Arts: Individual Studies.

## Teacher Education — Biology - (Suggested Course Selections)

Apply to LAGS EDU

Middle Childhood (Grades 5-8)

Adolescent (Grades 7-12)

These suggested course selections are intended to help students to choose BCC courses that might support various fields of study at transfer institutions. Because curricula and programs are always subject to review and revision, it is important that students contact the institutions directly.

**Sequence of Courses:** This model is a two-year course schedule for student meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.

**For more information, contact:**

Lenny D. Grozier, M.S. Ed.  
Office: Titchener Hall, Room 210G  
Telephone: 607 778-5029  
Email: grozier\_l@sunybroome.edu

### FIRST YEAR

- Foreign Language [two semesters of the same language] Credits: 6-8
- COL 105 - Academic Planning Seminar
- BIO 117 - Principles of Biology I
- BIO 118 - Principles of Biology II
- ENG 110 - College Writing I
- ENG 111 - College Writing II

- HIS 100 - The Rise of the West: 1500-Present
- MAT 136 - College Algebra and Trigonometry I
- PSY 110 - General Psychology
- PSY 212 - Adolescent Development

Total 34-36 Credits

## SECOND YEAR

- Art, Music, or Theater Credits: 3
- Humanities Credits: 3
- Social Science or Civic Education Credits: 3
- Physical Education (cardiovascular) Credit: 1
- HIS 130 - United States History I  
Or
- HIS 131 - United States History II
- ENG 220 - Communicating About Ideas and Values
- EDU 111 - Foundations of American Education  
[a minimum of 30 field and community service experience hours are required in this course]
- CHM 145 - Chemistry I  
And
- CHM 146 - Chemistry II
- PHY 161 - Physics I: Mechanics and Heat  
And
- PHY 162 - Physics II: Wave Motion, Electromagnetism, and Atomic Physics

Total 35 Credits

MINIMUM GRADUATION REQUIREMENTS: 60 Credits

## Teacher Education — English - (Suggested Course Selections)

Apply to LAGS EDU

Middle Childhood (Grades 5-9)

Adolescence (Grades 7-12)

**These suggested course selections are intended to help students to choose BCC courses that might support studying English Education at transfer institutions. Because curricula and programs are always subject to review and revision, it is important that students contact the institutions directly.**

**SEQUENCE OF COURSES:** This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.

**For more information, contact:**

Lenny D. Grozier, M.S. Ed.  
Office: Titchener Hall, Room 210G  
Telephone: 607 778-5029  
Email: [grozier\\_l@sunybroome.edu](mailto:grozier_l@sunybroome.edu)

## FIRST YEAR

- Foreign Language [two semesters of the same language] Credits: 6-8
- Literature elective Credits: 3
- COL 105 - Academic Planning Seminar
- ENG 110 - College Writing I
- ENG 111 - College Writing II
- HIS 100 - The Rise of the West: 1500-Present
- HIS 130 - United States History I  
Or
- HIS 131 - United States History II
- PSY 110 - General Psychology
- PSY 212 - Adolescent Development
- LIT 200 - Introduction to Literature

Total 31-33 Credits

## SECOND YEAR

- Art, Music, or Theater Credits: 3
- Physical Education (cardiovascular) Credit: 1
- Social Science or Civic Education Credits: 3
- Laboratory Science sequence [i.e. BIO 111 and BIO 112] Credits: 8
- Literature Credits: 6
- MAT 115 - Mathematics for General Education I  
And
- MAT 116 - Mathematics for General Education II  
Or
- MAT 124 - Statistics I (Or higher)
- ENG 220 - Communicating About Ideas and Values

- EDU 111 - Foundations of American Education  
[a minimum of 30 field and community service experience hours are required in this course]

Total 30-33 Credits

MINIMUM GRADUATION REQUIREMENTS: 60 Credits

## **Teacher Education — Mathematics - (Suggested Course Selections)**

**Apply to LAGS EDU**

**Middle Childhood (Grades 5-9)**

**Adolescence (Grades 7-12)**

These suggested course selections are intended to help students to choose BCC courses that might support studying Math Education at transfer institutions. Because curricula and programs are always subject to review and revision, it is important that students contact the institutions directly.

**SEQUENCE OF COURSES:** This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study .

**For more information, contact:**

Lenny D. Grozier, M.S. Ed.  
Office: Titchener Hall, Room 210G  
Telephone: 607 778-5029  
Email: grozier\_l@sunybroome.edu

### **FIRST YEAR**

- Foreign Language [two semesters of the same language] Credits: 6-8
- Humanities [\*PHI 203] Credits: 3
- Mathematics Credits: 4
- COL 105 - Academic Planning Seminar
- ENG 110 - College Writing I
- ENG 111 - College Writing II
- HIS 100 - The Rise of the West: 1500-Present



- HIS 130 - United States History I  
Or
- HIS 131 - United States History II
- PSY 110 - General Psychology
- PSY 212 - Adolescent Development

Total 32-34 Credits

## SECOND YEAR

- Art, Music, or Theater Credits: 3
- Physical Education (cardiovascular) Credit: 1
- Social Science or Civic Education Credits: 3
- Mathematics Credits: 4
- MAT 181 - Calculus I
- MAT 182 - Calculus II
- ENG 220 - Communicating About Ideas and Values
- EDU 111 - Foundations of American Education  
[a minimum of 30 field and community service experience hours are required in this course]
- PHY 161 - Physics I: Mechanics and Heat \*
- PHY 162 - Physics II: Wave Motion, Electromagnetism, and Atomic Physics \*

Recommended Mathematics courses:

- MAT 250 - Discrete Mathematics
- MAT 264 - Linear Algebra
- MAT 266 - Introduction to Higher Math
- MAT 281 - Calculus III
- MAT 282 - Differential Equations w/Linear Algebra

Total 33 Credits

Note:

\* = recommended

MINIMUM GRADUATION REQUIREMENTS: 60 Credits

# Teacher Education — Physical Education - (Suggested Course Selections)

*Apply to LAGS EDU*

**These suggested course selections are intended to help students choose BCC courses that might support studying Physical Education at transfer institutions. Because curricula and programs are always subject to review and revision, it is important that students contact the transfer institutions directly.**

**SEQUENCE OF COURSES:** This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.

**For more information, contact:**

Lenny D. Grozier, M.S. Ed.  
Office: Titchener Hall, Room 210G  
Telephone: 607-778-5029  
Email: grozier\_l@sunybroome.edu

## Suggested Course Selections:

### First Year

- Foreign Language [two semesters of the same language] Credits: 6-8
- Physical Education (cardiovascular) Credits: 1-3
- Humanities elective Credits: 3
- COL 105 - Academic Planning Seminar
- ENG 110 - College Writing I
- ENG 111 - College Writing II
- HIS 100 - The Rise of the West: 1500-Present
- HIS 130 - United States History I
- Or
- HIS 131 - United States History II
- PSY 110 - General Psychology
- PSY 212 - Adolescent Development.

Total 29-33 Credits

### Second Year

- Art, Music, or Theater elective Credits: 3
- Social Science or Civic Education elective Credits: 3
- Physical Education (cardiovascular) Credit: 1
- MAT 115 - Mathematics for General Education I  
And
- MAT 116 - Mathematics for General Education II  
Or
- MAT 124 - Statistics I  
(Or higher)  
Choose 1 of the following Physical Education cardiovascular (CV) courses:
- PED 118 - Personal Fitness (CV)
- PED 119 - Personal Fitness (CV)
- PED 155 - Trim and Tone (CV)
- ENG 220 - Communicating About Ideas and Values
- EDU 111 - Foundations of American Education  
[a minimum of 30 field and community service experience hours are required in this course]
- BIO 131 - Human Biology I
- BIO 132 - Human Biology II
- PSY 250 - Educational Psychology \*

#### Recommended Physical Education cardiovascular courses:

- PED 103 - Backpacking (CV)
- PED 106 - Badminton (CV)
- PED 107 - Ballet I (CV)
- PED 110 - Basic Ice Skating (CV)
- PED 127 - Jogging (CV)
- PED 130 - Karate (CV)
- PED 135 - Jazz Dance I (CV)
- PED 137 - Jazz Dance II (CV)
- PED 140 - Dance Pilates
- PED 143 - Cross-Country Skiing (CV)
- PED 146 - Aerobics (CV)
- PED 169 - Tennis (CV)
- PED 172 - Volleyball (CV)
- PED 173 - Fitness Walking (CV)  
Or  
Varsity Sport

Total 34-36 Credits

Note:

\* = recommended course

MINIMUM GRADUATION REQUIREMENTS: 60 Credits

## **Teacher Education - Social Studies (Suggested Course Selections)**

### **Apply to LAGS EDU**

**Middle Childhood (Grades 5-9)**

**Adolescence (Grades 7-12)**

These suggested course selections are intended to help students choose BCC courses that might support studying Middle Childhood or Adolescence Education with a Social Studies concentration at transfer institutions. Because curricula and programs are always subject to review and revision, it is important that students contact the transfer schools directly.

**SEQUENCE OF COURSES:** This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.

**For more information, contact:**

Lenny D. Grozier, M.S. Ed.  
Office: Titchener Hall, Room 210G  
Telephone: 607 778-5029  
Email: grozier\_l@sunybroome.edu

### **FIRST YEAR**

- Foreign Language [two semesters of the same language] Credits: 6-8
- Anthropology, Economics, History, or Political Science Credits: 3
- Humanities Credits: 3
- COL 105 - Academic Planning Seminar
- ENG 110 - College Writing I
- ENG 111 - College Writing II
- HIS 100 - The Rise of the West: 1500-Present
- HIS 130 - United States History I
- Or
- HIS 131 - United States History II
- PSY 110 - General Psychology
- PSY 212 - Adolescent Development

Total 31-33 Credits

## SECOND YEAR

- Art, Music, or Theater Credits: 3
- Physical Education (cardiovascular) Credit: 1
- Social Science or Civic Education Credits: 3
- Laboratory Science sequence [i.e., BIO 111 and BIO 112] Credits: 8
- Anthropology, Economics, History, or Political Science Credits: 3-6
- MAT 115 - Mathematics for General Education I  
And
- MAT 116 - Mathematics for General Education II  
Or
- MAT 124 - Statistics I Or higher
- ENG 220 - Communicating About Ideas and Values
- EDU 111 - Foundations of American Education  
[a *minimum* of 30 field and community service experience hours are required in this course]

Total 27-33 Credits

MINIMUM GRADUATION REQUIREMENTS: 60 CREDITS

## Teacher Education - Spanish, French, German, or Italian (Suggested Course Selections)

### Apply to LAGS EDU

#### Adolescence (Grades 7-12)

These suggested course selections are intended to help students choose BCC courses that might support studying Adolescence Education with a Foreign Language concentration at transfer institutions. Because curricula and programs are always subject to review and revision, it is important that students contact the transfer schools directly.

**SEQUENCE OF COURSES:** This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.



**For more information, contact:**

Lenny D. Grozier, M.S. Ed.

Office: Titchener Hall, Room 210G

Telephone: 607 778-5029

Email: grozier\_l@sunybroome.edu

**FIRST YEAR**

- Foreign Language [two semesters of the same language] Credits: 8
- Humanities Credits: 3
- Art, Music, or Theater Credits: 3
- COL 105 - Academic Planning Seminar
- ENG 110 - College Writing I
- ENG 111 - College Writing II
- HIS 100 - The Rise of the West: 1500-Present
- HIS 130 - United States History I  
Or
- HIS 131 - United States History II
- PSY 110 - General Psychology
- PSY 212 - Adolescent Development

Total 33 Credits

**SECOND YEAR**

- Physical Education (cardiovascular) Credit: 1
- Social Science or Civic Education Credits: 3
- Laboratory Science sequence [i.e., BIO 111 and BIO 112] Credits: 8
- MAT 115 - Mathematics for General Education I  
And
- MAT 116 - Mathematics for General Education II  
Or
- MAT 124 - Statistics I Or higher
- ENG 220 - Communicating About Ideas and Values
- EDU 111 - Foundations of American Education  
[a *minimum* of 30 field and community service experience hours are required in this course]
- PSY 223 - Human Exceptionality and Its Assessment \*
- SPK 110 - Effective Speaking \*

Total 30 Credits

Note:

\* = recommended course

MINIMUM GRADUATION REQUIREMENTS: 60 CREDITS

## Teacher Education - Visual Arts (PreK - 12) (Suggested Course Selections)

### Apply to LAGS EDU

These suggested course selections are intended to help students choose BCC courses that might support studying Visual Arts Education at transfer institutions. Because curricula and programs are always subject to review and revision, it is important that students contact the transfer schools directly.

**SEQUENCE OF COURSES:** This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.

**For more information, contact:**

Lenny D. Grozier, M.S. Ed.  
Office: Titchener Hall, Room 210G  
Telephone: 607 778-5029  
Email: grozier\_l@sunybroome.edu

### FIRST YEAR

- Foreign Language [two semesters of the same language] Credits: 6-8
- Physical Education (cardiovascular) Credit: 1
- Humanities Credits: 3
- COL 105 - Academic Planning Seminar
- ENG 110 - College Writing I
- ENG 111 - College Writing II
- HIS 100 - The Rise of the West: 1500-Present
- HIS 130 - United States History I
- Or
- HIS 131 - United States History II
- PSY 110 - General Psychology
- PSY 212 - Adolescent Development

Total 29-37 Credits

## SECOND YEAR

- Art, Music, or Theater Credits: 3
- Social Science or Civic Education Credits: 3
- Laboratory Science sequence [i.e., BIO 111 and BIO 112] Credits: 8
- Art Credits: 6-9
- MAT 115 - Mathematics for General Education I  
And
- MAT 116 - Mathematics for General Education II  
Or
- MAT 124 - Statistics I Or higher
- ENG 220 - Communicating About Ideas and Values
- EDU 111 - Foundations of American Education  
[a *minimum* of 30 field and community service experience hours are required in this course]

Recommended Art courses:

- ART 102 - History of Western Art I
- ART 105 - Introduction to Two-Dimensional Design
- ART 106 - Introduction to Three-Dimensional Design
- ART 115 - Beginning Drawing

Total 32-35 Credits

MINIMUM GRADUATION REQUIREMENTS: 60 CREDITS

## Teacher Preparation and Certification

Each teacher certification candidate must complete a bachelor's degree that includes a minor or concentration in an academic discipline. Individual transfer institutions select from the concentrations approved by the Board of Regents. Check with the transfer institution before selecting a concentration.

## Teacher Certification Levels and Concentrations

## **Early Childhood Education (Birth through Grade 2)**

### **Special Education: Early Childhood Education (Birth through Grade 2)**

## **Childhood Education (Grades 1 - 6)**

### **Special Education: Childhood Education (Grades 1 - 6)**

## **Early Childhood and Childhood Education (Birth through Grade 6)**

## **Middle Childhood Education (Grades 5 - 9)**

- Generalist
- Specialist options:
  - Biology
  - Chemistry
  - Earth Science
  - English
  - Mathematics
  - Physics
  - Social Studies
  - Spanish

## **Adolescence Education (Grades 7 - 12)**

- Agricultural Subjects
- Biology
- Chemistry
- Earth Science
- English
- Family and Consumer Sciences
- French
- German
- Italian
- Mathematics
- Physics
- Social Studies (Anthropology, Economics, Geography, History, Political Science, Sociology)
- Spanish
- Technology

### **Special Education: Adolescence Education (Grades 7 - 12)**

- Biology
- Chemistry
- Earth Science
- English
- Mathematics
- Social Studies

### **Other certification areas (PreK - 12) are:**

- Agricultural Teaching
- Blind and Visually Impaired
- Business and Marketing
- Dance
- Deaf and Hard of Hearing
- Educational Technology
- Family and Consumer Sciences
- Health
- Library Science
- Music
- Physical Education
- Speech and Language Disabilities
- Technology Education
- Theatre
- Visual Arts
- TESOL

BCC can provide the general education courses and a portion of the courses needed for a major, concentration, or minor that is required for all teacher certificates. College foreign language requirements must be met for all teacher education candidates. Most or all of the pedagogical core is taught at the four-year teacher education institution. Students should explore the various teacher education institutions to determine which teaching certificates and concentrations each offers. Each one is unique and has its own requirements. With careful course selection, BCC graduates can enter most institutions as juniors. Teacher education programs require at least a 2.5 to 2.8 GPA for entrance into their programs.

Individuals interested in teaching careers are required by the New York State Education Department to have a proficiency in a language other than English, complete 300 hours of field experience/student teaching, obtain the appropriate bachelor's degree from a teacher preparation institution, pass the New York State Teacher Certification Examination(s), fulfill workshop training requirements (Identification and Reporting of Child Abuse and Maltreatment and School Violence Prevention Training), and complete a Masters degree within five years of obtaining Initial Certification in order to qualify for Permanent Certification. More information can be found at [www.highered.nysed.gov/tcert](http://www.highered.nysed.gov/tcert)

### **Teaching Assistant Preparation**

The New York State Education Department is requiring increasing amounts of education as well as the examination of Communication and Quantitative Skills for the position of Teaching Assistant in the public schools. More information on college course requirements can be found at: <http://www.highered.nysed.gov/tcert/part80.htm#5.6b2ii>



## **Art and Design - Art History - (Suggested Course Selections)**

**SEE LIBERAL ARTS: GENERAL STUDIES A.S.**

## **Art and Design - Graphic Arts - (Suggested Course Selections)**

**SEE LIBERAL ARTS: GENERAL STUDIES A.S.**

## **Art and Design - Interior Design/Environmental Design - (Suggested Course Selections)**

**SEE LIBERAL ARTS: GENERAL STUDIES A.S.**

## **Art and Design - Studio Art - (Suggested Course Selections)**

**SEE LIBERAL ARTS: GENERAL STUDIES A.S.**

## **Theater and Acting - (Suggested Course Selections)**

**SEE LIBERAL ARTS: GENERAL STUDIES A.S.**

## **Science, Technologies, Engineering & Mathematics Division**

### **Civil Engineering Technology: A.A.S.**

#### *Associate in Applied Science*

Civil Engineering Technology (CET) is a diverse field with excellent employment opportunities locally, state-wide, and nationally. Graduates are involved in all phases of the construction industry, from planning and design of buildings, bridges, highways, commercial and industrial facilities, to management and inspection of the construction process. Rewarding careers may be found with consulting engineering companies, construction companies, and governmental agencies such as the NYS Department of Transportation or Broome County's engineering department.

Entry-level jobs may be in computer aided design (CAD), highway design, surveying, structural detailing, construction materials testing, construction management, inspection, or cost estimating.

The CET program incorporates state-of-the-art labs, CAD and other computer applications. It is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET). The program is designed for immediate career opportunities; however, about 30% of the graduates transfer into Bachelor level programs and receive full two-year transfer credit at many institutions.

**SEQUENCE OF COURSES: This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.**

**Program supervised by:**

Gordon Sheret, P.E., L.S.

Office: Mechanical Building, Room 117

Telephone: 607 778-5010

E-mail: sheret\_g@sunybroome.edu

## FIRST YEAR

### Fall Semester 15.5 Credits

- CIV 113 - Engineering Drawing I w/CAD
- CIV 136 - Construction Methods & Management
- CST 106 - Computers in Technology
- ENG 110 - College Writing I
- MAT 130 - Applied Algebra and Trigonometry  
See note 1
- TEC 100 - Introduction to Technology

### Spring Semester 18 Credits

- CIV 114 - Civil Drafting w/CAD
- CIV 119 - Architectural Drawing w/CAD
- CIV 124 - Mechanics
- ENG 150 - Technical Writing
- MAT 160 - Applied Calculus I  
See note 1
- PHY 161 - Physics I: Mechanics and Heat  
See note 2

## SECOND YEAR

### Fall Semester 18 Credits

- CIV 201 - Surveying I
- CIV 217W - Materials Testing
- CIV 219 - Strength of Materials
- CIV 237 - Hydraulics/Storm Water Management  
or
- CIV 238 - Architectural Design & Building Materials w/CAD
- PHY 162 - Physics II: Wave Motion, Electromagnetism, and Atomic Physics  
See note 2

## Spring Semester 18 Credits

- Social Science Elective Credits: 3
- CIV 202 - Surveying II
- CIV 240 - Soil Mechanics
- SOS 120 - Science, Technology, and Democratic Society

## Structural Design Elective (Choose 1)

- CIV 224 - Reinforced Concrete Design
- CIV 226 - Structural Steel Design

## Technical Elective (Choose 1)

- CIV 231 - Estimating & Construction Planning
- CIV 250 - MicroStation and Inroads Applications

## GRADUATION REQUIREMENTS: 69-1/2 CREDITS

### Notes

<sup>1</sup>or MAT 181, 182

<sup>2</sup>or PHY 181, 182

w - Writing Emphasis Course

## Computer Information Systems: A.A.S.

### *Associate in Applied Science*

The Computer Information Systems program consists of a broad spectrum of courses in the information systems and information technology fields. Upon completion of the required courses, the student will receive an Associate in Applied Science and be ready for immediate employment.

Core courses give the student a strong foundation in applications programming, networking, database systems, productivity software, system security, Web development, and systems analysis. Students can also select a variety of CST and/or BUS electives to suit their interests. Students can attend full-time or part-time. Courses may be offered day, evenings, or online.

Students seeking immediate employment will find opportunities in a variety of organizations as application programmers/analysts, computer operators, database specialists, IT support, or Web developers. Students planning to transfer should seek the advice of the department chairperson and the transfer institution. Students can potentially pursue transfer to Bachelor of Science programs in Computer Information Systems, Management Information Systems, or Information Technology.

**Program supervised by:**

Chris H. Pappas

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Telephone: 607 778-5022

E-mail: pappas\_c@sunybroome.edu

## FIRST YEAR

### Fall Semester 18 Credits

- CST 103 - General Security Concepts
- CST 113 - Introduction to C#
- CST 117 - Language Independent Design Tools
- CST 119 - Computer Concepts and Applications
- ENG 110 - College Writing I
- MAT 117 - Elementary Finite Math w/Algebra

### Spring Semester 15-16 Credits

- CST or BUS Approved Elective Credits: 3-4
- CST 120 - Java Programming  
Or CST 133 Structured Programming in C#
- CST 131 - Web Development Languages
- CST 158 - Spreadsheets With Financial Applications
- CST 208W - Introduction to Computer Networking

## SECOND YEAR

### Fall Semester 16-17 Credits

- PHS Lab Course Credits: 4
- Soc Sci Elective Credits: 3
- CST or BUS Approved Elective Credits: 3-4

- CST 213 - Database Systems
- CST 216 - Visual Basic.NET

## Spring Semester 18-19 Credits

- CST or BUS Approved Elective Credits: 3-4
- Social Science Elective Credits: 3
- CST 200W - Systems Analysis
- CST 210 - Business Security
- CST 226 - Advanced Visual Basic.NET
- ENG 150 - Technical Writing  
Or ENG 220 Communicating About Ideas and Values

## CST COURSES

- CST 120 - Java Programming
- CST 124 - Introduction to CGI Programming
- CST 133 - Structured Programming in C#
- CST 140 - Computer Maintenance
- CST 170 - Digital Logic

## Other COURSES

- BIT 182 - Designing Effective Web Pages
- BUS 111 - Financial Accounting
- BUS 118 - Business Law I
- MAT 124 - Statistics I
- MAT 146 - Applied Business Calculus

## CST COURSES

- CST 209 - Advanced Computer Networking
- CST 226 - Advanced Visual Basic.NET
- CST 231 - Web Development Packages
- CST 233 - Active Server Pages

## BUS COURSES

- BUS 190 - Marketing and the World Wide Web
- BUS 210 - Managerial Accounting

## GRADUATION REQUIREMENT: 67-70 CREDITS



## Note

w - Writing Emphasis Course

### On-Line Course Recommendations:

It is recommended that all students taking on-line WebCT or SLN courses should have high-speed Internet connections. The software used by on-line students may come bundled with the course textbook, and/or be available on-line. Some on-line courses will require a student to purchase the software necessary to complete the course.

### Computer Recommendation:

A student seeking a career in the computer programming profession should have a home computer with an Internet connection. Students will have to use computers to write programs, analyze problems, make presentations, and write reports. Many assignments cannot be completed without computers. While the College provides access to computers, it is not possible to provide enough machines or convenient times for everyone. Students are strongly urged to purchase Windows-capable systems with speeds of at least 1.5 GHz, with 256 Meg of RAM, and a 20 Gig hard drive. The CST Department currently uses Microsoft Visual C++ .NET as its main development environment.

## Computer Science: A.S.

### *Associate in Science Transfer Program*

The Computer Science program leads to an Associate in Science degree and prepares students for transfer to a four year college or university.

The Computer Science program provides a firm grounding in the fundamentals of Computer Science which involves a variety of topics such as computer architecture, programming languages, object oriented programming and applications. Mathematics also plays a key role in Computer Science. Computer Scientists are problem solvers and need strong critical thinking skills and must be able to apply these to a variety of challenging problems and situations. These skills will be important in their further studies as well as in their chosen computer science career.

Students completing the Computer Science program are well prepared for transfer to four year institutions and generally transfer with junior status.

#### **Program supervised by:**

Chris H. Pappas

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Telephone: 607 778-5022

E-mail: pappas\_c@sunybroome.edu

### FIRST YEAR

## Fall Semester 16 Credits

- PED elective Credits: 1
- CST 113 - Introduction to C#
- CST 117 - Language Independent Design Tools
- CST 119 - Computer Concepts and Applications
- ENG 110 - College Writing I
- MAT 181 - Calculus I

## Spring Semester 16 Credits

- CIV Ed Elective Credits: 3
- Social Science Elective Credits: 3
- CST 133 - Structured Programming in C#
- CST 170 - Digital Logic
- MAT 182 - Calculus II

## SECOND YEAR

### Fall Semester 17 Credits

- Gen Ed Elective Credits: 3
- CST 150W - C++ Programming with Objects
- CST 220 - Microprocessors and Assembly Language Programming
- MAT 250 - Discrete Mathematics
- PHY 181 - Physics for Engineers & Scientists I: Mechanics and Thermodynamics

### Spring Semester 17 Credits

- CST 202W - Data Structures with C++
- CST 225W - Introduction to Small Systems
- ENG 220 - Communicating About Ideas and Values
- MAT 264 - Linear Algebra
- PHY 182W - Physics for Engineers & Scientists II: Sound, Light, Electricity and Magnetism

## GRADUATION REQUIREMENT: 66 CREDITS

### On-Line Course Recommendations:

It is recommended that all students taking on-line WebCT or SLN courses should have high-speed Internet connections. The software used by on-line students may come bundled with the course textbook, and/or be available on-line. Some on-line courses will require a student to purchase the software necessary to complete the course.

## Computer Recommendation:

A student seeking a career in the computer programming profession should have a home computer with an Internet connection. Students will have to use computers to write programs, analyze problems, make presentations, and write reports. Many assignments cannot be completed without computers. While the College provides access to computers, it is not possible to provide enough machines or convenient times for everyone. Students are strongly urged to purchase Windows-capable systems with speeds of at least 1.5 GHz, with 256 Meg of RAM, and a 20 Gig hard drive. The CST Department currently uses Microsoft Visual C++.NET as its main development environment.

## Note

The program may take more than two years to complete depending on a student's academic background. Preparatory courses are offered for students not meeting entry requirements into the regular Computer Science program. Courses taken to meet prerequisite requirements will not count as credit towards the Computer Science degree. Students can attend full-time or part-time, both day and evening.

## Computer Technology: A.A.S.

### *Associate in Applied Science*

The Computer Technology program consists of a sequence of college level courses leading to the Associate in Applied Science degree. Computer Technology places less emphasis on mathematics and more on computer hardware, digital logic, and microprocessors. Graduates are prepared to work in a technical environment where a knowledge of the interface between hardware and software is necessary. These positions may include computer operators, technician/programmers, or engineering aides, working on large software projects or working directly with digital devices such as microprocessors and computer interfaces for sensors and controllers.

The program may take more than two years to complete depending on a student's academic background. Preparatory courses are offered for students not meeting entry requirements for the regular Computer Technology program. Courses taken to meet prerequisite requirements will not count as credit towards the Computer Technology degree. Students may elect to transfer to four-year schools to pursue a bachelor of science program in Computer Science or Information Technology. Students planning to transfer should seek the advice of the department chairperson. Students can attend full-time or part-time, both day and evening.

### **Program supervised by:**

Chris H. Pappas

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# Technical Track

## FIRST YEAR

### Fall Semester 18 Credits

- CST elective Credits: 3
- CST 113 - Introduction to C#
- CST 117 - Language Independent Design Tools
- CST 119 - Computer Concepts and Applications
- ENG 110 - College Writing I
- MAT 130 - Applied Algebra and Trigonometry

### Spring Semester 16 Credits

- CST elective Credits: 3
- CST 140 - Computer Maintenance
- CST 170 - Digital Logic
- CST 220 - Microprocessors and Assembly Language Programming
- MAT 160 - Applied Calculus I

## SECOND YEAR

### Fall Semester 16 Credits

- HIS elective Credits: 3
- Two CST electives (one 200 level) Credits: 6
- CST 208W - Introduction to Computer Networking
- PHY 161 - Physics I: Mechanics and Heat

### Spring Semester 16 Credits

- Social Sciences Elective Credits: 3
- CST Elective (200 level) Credits: 3
- CST 225W - Introduction to Small Systems
- ENG 150 - Technical Writing
- PHY 162 - Physics II: Wave Motion, Electromagnetism, and Atomic Physics

### Graduation Requirements: 66 Credits

## Network Track (Security/Forensics)

### FIRST YEAR

#### Fall Semester 18 Credits

- CST Elective Credits: 3
- CST 113 - Introduction to C#
- CST 117 - Language Independent Design Tools
- CST 119 - Computer Concepts and Applications
- ENG 110 - College Writing I
- MAT 130 - Applied Algebra and Trigonometry

#### Spring Semester 15 Credits

- CST Elective Credits: 3
- CST 140 - Computer Maintenance
- CST 170 - Digital Logic
- CST 208W - Introduction to Computer Networking
- CST 220 - Microprocessors and Assembly Language Programming

### SECOND YEAR

#### Fall Semester 16 Credits

- CST Elective (200 level) Credits: 3
- CST 209 - Advanced Computer Networking
- CST 213 - Database Systems
- CST 216 - Visual Basic.NET
- PHY 161 - Physics I: Mechanics and Heat  
Or Any PHS with a Lab

#### Spring Semester 15 Credits

- CST Elective (200 level) Credits: 3
- Social Science Elective Credits: 3
- Social Science Elective Credits: 3
- CST 219W - Socket Programming
- ENG 150 - Technical Writing



## Graduation Requirements: 64 Credits

### Notes

w - Writing Emphasis Course

### On-Line Course Recommendations:

It is recommended that all students taking on-line WebCT or SLN courses should have high-speed Internet connections. The software used by on-line students may come bundled with the course textbook, and/or be available on-line. Some on-line courses will require a student to purchase the software necessary to complete the course

### Computer Recommendation:

A student seeking a career in the computer programming profession should have a home computer with an Internet connection. Students will have to use computers to write programs, analyze problems, make presentations, and write reports. Many assignments cannot be completed without computers. While the College provides access to computers, it is not possible to provide enough machines or convenient times for everyone. Students are strongly urged to purchase Windows-capable systems with speeds of at least 1.5 GHz, with 256 Meg of RAM, and a 20 Gig hard drive. The CST Department currently uses Microsoft Visual C++ .NET as its main development environment.

## Electrical Engineering Technology: A.A.S.

### *Associate in Applied Science*

Electrical Engineering Technology emphasizes the theory and the application of scientific and engineering methods, and prepares the student for immediate employment or for transfer to an upper division school upon graduation.

The graduate is prepared to be the intermediary between the design engineer and the skilled craftsman. EETs translate problems into solutions by building equipment using their knowledge of mathematics, physics, linear and digital electronics, microprocessor hardware and software, machines, robotics, process control, circuit analysis, and computer programming.

This program may require more than two years to complete if an entering student has not completed the admissions requirements for the program. Students lacking any courses may be required to take developmental mathematics courses to prepare for MAT130 Applied Algebra and Trigonometry, and PHY090 Preparatory Physics.

The Electrical Engineering Technology program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

**SEQUENCE OF COURSES:** This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.

**Program supervisor:**

Dr. William Murray

Office: Mechanical Building, Room 117

Telephone: 607 778-5010

E-mail: murray\_w@sunybroome.edu

## FIRST YEAR

### Fall Semester 17.5 Credits

- EET 107 - Electronic Computer Applications
- EET 111 - Electrical Construction Laboratory
- EET 121 - DC & AC Circuits and Laboratory
- ENG 110 - College Writing I
- MAT 130 - Applied Algebra and Trigonometry
- TEC 100 - Introduction to Technology

### Spring Semester 18 Credits

- CST 123 - Visual Basic for Technology
- EET 112 - Electrical Fabrication Laboratory
- EET 150 - Electronic Devices and Laboratory
- EET 162 - Computer Aided Network Analysis Laboratory
- ENG 150 - Technical Writing
- MAT 160 - Applied Calculus I
- MET 113 - Engineering Drawing I w/CAD

## SECOND YEAR

### Fall Semester 18 Credits

- EET 247W - Energy Conversions & Automation and Laboratory
- EET 251 - Electronic Circuitry
- EET 260 - Digital Electronics
- PHY 161 - Physics I: Mechanics and Heat
- SOS 120 - Science, Technology, and Democratic Society

### Spring Semester 19 Credits

- Social Science Elective Credits: 3
- EET 201 - Senior Seminar
- EET 230 - Electronic Design Project
- EET 252W - Electronic Communications Systems
- EET 267 - Microprocessors
- EET 270 - Control Systems & Robotics
- PHY 162 - Physics II: Wave Motion, Electromagnetism, and Atomic Physics

## Note

<sup>1</sup>Students should consult with the department chairperson or designee to determine the appropriate mathematics course.

## GRADUATION REQUIREMENTS: 72.5 CREDITS

# Engineering Science: A.S.

### *Associate in Science Transfer Program*

The Engineering Science Program is designed to prepare the student to transfer to any of the major universities as a full junior in the engineering major of his/her choice. The program is calculus based and is modeled on the first two years of engineering majors in schools such as Binghamton University, SUNY at Buffalo, Clarkson University, Rensselaer Polytechnic Institute, Rochester Institute of Technology, Syracuse University, Wilkes University, and Cornell University. Students who successfully complete the program can usually transfer to the listed schools as well as most unlisted universities. Students can take electives needed to transfer as Electrical, Mechanical, Computing, Civil, Industrial and Systems Engineering majors as well as Engineering Management and a number of others.

To be admitted to this, or any other engineering program, the student needs to be properly prepared by taking courses in Physics, Chemistry and Mathematics, as listed under "Academic Preparation for Admissions"

**SEQUENCE OF COURSES:** The following model meets all program requirements for students who are pursuing full-time study and wish to complete the course work in four semesters. Those who desire a slower pace or need preparatory courses will require more than four semesters.

### **Program Supervised by:**

Kennie K. Leet

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Room AT-101

Telephone: 607-778-5114

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www.sunybroome.edu/~egr\_dept

## FIRST YEAR

## Fall Semester 16.5 Credits

- CHM 145 - Chemistry I
- CST 127 - Introduction to C++ for Engineers
- EGR 100L - Engineering Orientation: Student Success I
- EGR 150 - Engineering Design I with Graphics
- ENG 110 - College Writing I
- or
- ENG 111 - College Writing II
- >
- MAT 181 - Calculus I

## Spring Semester 16.5/17.5 Credits

- Engineering Elective II Credits: 3/4
- Social Sciences Electives Credits: 3
- EGR 101L - Engineering Orientation: Student Success II
- EGR 151 - Engineering Design II
- MAT 182 - Calculus II
- PHY 181 - Physics for Engineers & Scientists I: Mechanics and Thermodynamics

## SECOND YEAR

### Fall Semester 17.5 Credits

- Engineering Elective or Social Science elective Credits: 3
- PED Electives: 2
- EGR 200L - Engineering Orientation: Student Success III
- EGR 287L - Engineering Design III
- EGR 289W - Digital Logic and Microprocessors
- MAT 282 - Differential Equations w/Linear Algebra

### Spring Semester 17.5 Credits

- Engineering Elective III or Social Science Writing Emphasis Elective Credits: 3
- Engineering Elective IV Credits: 3
- Engineering Elective V Credits: 3
- EGR 201L - Engineering Orientation: Student Success IV
- EGR 288L - Engineering Design IV
- ENG 111 - College Writing II
- or
- ENG 220 - Communicating About Ideas and Values



- MAT 281 - Calculus III  
(or Approved Mathematical Elective)

## Note

### Computer and Calculator Recommendations:

Students will have to use a computer to analyze problems, make presentations, and write reports. While the College provides access to computers, most students need to have their own computer since they are so often used. Students will also need a computer and a high level graphing calculator. The T-89 is recommended.

### Engineering Majors:

Students choose technical electives appropriate to their individual career path. Chemical Engineering majors take two semesters of Organic Chemistry. Biological or Environmental engineers usually take two semesters of Biology. Computer Engineers usually need three semesters of programming classes. Civil and Mechanical engineering fields usually require Statics, Dynamics and Strength of Materials. Circuits are taken by most students. Engineering Management and Systems Engineering options will require other substitutions. Students are urged to review requirements of their desired university transfer program.

### GRADUATION REQUIREMENTS: 68 CREDITS

## Individual Studies: A.A.S.

### *Associate in Applied Science Degree*<sup>1</sup>

Students whose academic goals cannot be attained through existing programs may be allowed to structure individualized degree programs. Qualified students develop, with an advisor, an "area of concentration." *This area of concentration must be a cohesive program of study clearly related to employment or upper division academic goals.*

Completion of the Individual Studies Program can lead to an Associate in Science (AS) or Associate in Applied Science (AAS) degree. The degree will depend upon the student's future academic and/or career goals. The AS degree program is designed for baccalaureate transfer, and the AAS degree is designed for immediate employment. and professional development. *Admission into the Program requires that the student develop a Plan of Studies that is approved by the Program coordinator.*

This is not a program for students unsure of their goals or simply exploring several areas of study.

For additional information, contact the Program Supervisor.

### **Program supervised by:**

Douglas Garnar



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Telephone: 607 778-5378  
E-mail: garnar\_d@sunybroome.edu

## Requirements

### Liberal Arts and Sciences

Minimum of 20 semester credits in Liberal Arts and Sciences to include:

#### Humanities 9 Credits

(ENG 110 and ENG 220 required)

- ENG 110 - College Writing I
- ENG 111 - College Writing II
- ENG 220 - Communicating About Ideas and Values

#### Social Science 6 Credits

(3 must be in designated Civic Education courses)

#### Natural and Physical Science, including Mathematics 8 Credits

#### Technical Electives 10 Credits

Student's Area of Concentration: A minimum of 39 Credits

Total Credits: 63

## Notes

<sup>1</sup>Students in both AS and AAS programs must satisfy General Education requirements.

NOTE: Two Writing Emphasis Courses are required after ENG 110 and before ENG 220

NOTE: Students interested in General Studies sequences in Art and Design, Elementary Education, Music and Theatre should refer to General Studies sequences in Liberal Arts and Related Careers Programs.

A Liberal Arts certificate is available.

## Industrial Technology: A.A.S.

### *Associate in Applied Science*

The Industrial Technology curriculum provides an educational opportunity for those students who desire an associate in applied science degree in a technical area with a non-calculus mathematics approach. The Industrial Technology program is designed for the full-time day or part-time evening student and allows students a choice of course selections in several technical specialties such as Computer Aided Drawing (CAD), and/or Computer Aided Manufacturing (CAM). An individualized program of study may be developed by an appropriate advisor to meet the needs of a student or by an advisor with a corporate sponsor.

The following sequence of courses is a two-year schedule for full-time day students meeting all prerequisites. Schedules will be redesigned for students without the prerequisites and part-time students.

#### **Program supervised by:**

William G. Kelly, Chairman

Office: Mechanical Building,

Room 117

Telephone: 607 778-5010

E-mail: kelly\_w@sunybroome.edu

### FIRST YEAR

#### Fall Semester 14.5 Credits

- CST 106 - Computers in Technology
- MAT 130 - Applied Algebra and Trigonometry
- MET 112 - Metrology
- MET 113 - Engineering Drawing I w/CAD
- MET 121 - Manufacturing Processes I
- TEC 100 - Introduction to Technology

#### Spring Semester 14 Credits

- Technical Elective <sup>2</sup> Credits: 3
- ENG 110 - College Writing I
- MET 116 - Engineering Drawing II w/CAD
- MET 122 - Manufacturing Processes II
- MET 164 - Quality Systems

## SECOND YEAR

### Fall Semester 15 Credits

- ENG 150 - Technical Writing
- MET 211 - Mechanical CAD
- MET 220 - Programming CNC Machine Tools  
See note 3
- PHY 161 - Physics I: Mechanics and Heat
- SOS 120 - Science, Technology, and Democratic Society

### Spring Semester 17 Credits

- Social Science Elective Credits: 3
- Technical Elective <sup>2</sup> Credits: 2
- MAT 124 - Statistics I
- MET 213 - Pro/Engineer
- MET 223 - Computer Integrated Machining  
See note 3
- PHY 162 - Physics II: Wave Motion, Electromagnetism, and Atomic Physics

### Note

<sup>1</sup> Technical Electives may be chosen from CST, EET, CHM, CIV, MET, or SQC listings.

<sup>2</sup> Offered in the evening only.

**Some course substitutions are available for evening students.**

### Cooperative Work Experience

Selected students can receive on-the-job experience directly related to the Industrial Technology: Mechanical/CADCAM field by registering for MET 298 Cooperative Work Experience. To be eligible, students must be registered full-time in the MET Department, and have a GPA of at least 2.2 with no "F" grades, and have completed at least 24 credit hours.

## Industrial Technology: Certificate

### Certificate Program

A student or corporation interested in Industrial Technology can complete the 30 credit Industrial Technology certificate program. In special circumstances, the Chairman can allow course substitutions to meet individual needs. The course list for the Industrial Technology certificate is shown below.

William G. Kelly  
Office: Mechanical Building, Room 117  
Telephone: 607 778-5010  
E-mail: kelly\_w@sunybroome.edu

## Courses

- Technical Electives Credits: 2
- CST 106 - Computers in Technology
- MAT 130 - Applied Algebra and Trigonometry
- MET 112 - Metrology
- MET 113 - Engineering Drawing I w/CAD
- MET 116 - Engineering Drawing II w/CAD
- MET 121 - Manufacturing Processes I
- MET 122 - Manufacturing Processes II
- MET 211 - Mechanical CAD
- MET 220 - Programming CNC Machine Tools
- MET 223 - Computer Integrated Machining

## Industrial Technology: Quality Assurance A.A.S.

The Quality Assurance concentration of the Industrial Technology program at Broome Community College is a planned sequence of college level courses leading to an Associate in Applied Science degree. Quality Assurance emphasizes both the theory and the application of established methods of quality in areas such as engineering, health care, education, business management, etc. The program prepares the student for immediate employment or for possible transfer to an upper division school upon graduation.

The program may require more than two years to complete, depending on a student's academic background. The department will tailor a program assuring each student the opportunity to earn an AAS degree in Industrial Technology with a Quality Assurance concentration. Qualified AAS degree candidates may have the opportunity to complete an internship with a local employer.

The following sequence of courses is a two-year schedule for full-time day students meeting all prerequisites. Schedules will be redesigned for students without the prerequisites and part-time students.

### **Program supervised by:**

Timmy Bremer, Chairman  
Office: Applied Technology Building,  
Room AT018  
Telephone: 607 778-5165  
E-mail: bremer\_t@sunybroome.edu

## FIRST YEAR

## Fall Semester 16 Credits

- General Education Elective/Credits: 3
- CST 105 - Computer Applications
- ENG 110 - College Writing I
- MAT 124 - Statistics I
- MAT 136 - College Algebra and Trigonometry I

## Spring Semester 20 Credits

- General Education Elective/Credits: 3
- CHM 120 - Fundamental Chemistry
- MAT 156 - Algebra and Trigonometry for Calculus
- MAT 224 - Statistics II
- MET 113 - Engineering Drawing I w/CAD
- PHY 161 - Physics I: Mechanics and Heat

## SECOND YEAR

### Fall Semester 15 Credits

- MAT 245 - Design of Experiments
- MET 112 - Metrology
- MET 121 - Manufacturing Processes I
- SQC 111 - Acceptance Sampling and Reliability
- SQC 113 - Statistical Process Control
- SQC 200 - Senior Seminar I

### Spring Semester 16 Credits

- Approved Elective/Credit: 3
- EET 183 - Applied Electricity
- ENG 150 - Technical Writing
- SQC 201 - Senior Seminar II
- SQC 210 - Six Sigma Topics
- SQC 220 - Senior Practicum

GRADUATION REQUIREMENTS: 67 CREDITS

**Industrial Technology: Quality Assurance: Certificate**



# Certificate

The Quality Assurance: Certificate concentration of the Industrial Technology program at Broome Community College is a planned sequence of college level courses leading to a certificate. Quality Assurance emphasizes both the theory and the application of established methods of quality in areas such as engineering, health care, education, business management, etc. The program prepares the student for immediate employment upon graduation.

The program may require more than two years to complete, depending on a student's academic background. The department will tailor a program assuring each student the opportunity to earn a certificate in Industrial Technology with a Quality Assurance concentration.

The following courses comprise the Certificate. Schedules can be tailored to meet the needs of students.

## **Program supervised by:**

Timmy Bremer, Chairman

Office: Applied,

Room AT018

Telephone: 607 778-5165

E-mail: bremer\_t@sunybroome.edu

## Certificate Requirements

- CST 105 - Computer Applications
- ENG 110 - College Writing I
- MAT 124 - Statistics I
- MAT 136 - College Algebra and Trigonometry I
- MAT 156 - Algebra and Trigonometry for Calculus
- MET 112 - Metrology
- MET 113 - Engineering Drawing I w/CAD
- MET 121 - Manufacturing Processes I
- SQC 111 - Acceptance Sampling and Reliability
- SQC 113 - Statistical Process Control
- SQC 200 - Senior Seminar I
- SQC 201 - Senior Seminar II
- SQC 210 - Six Sigma Topics

GRADUATION REQUIREMENTS: 35 CREDITS

## **Mechanical Engineering Technology: A.A.S.**

*Associate in Applied Science*

The Mechanical Engineering Technology (MET) program is designed to prepare students in the applied aspects of engineering. It requires the application of scientific and engineering knowledge combined with practical technical skills and methods in support of engineering activities. The program emphasizes the application of fundamental engineering principles while utilizing up-to-date equipment and techniques.

The MET program at BCC is divided into four major areas: Engineering Materials, Fluid Mechanics and Thermodynamics, Mechanical Drawing and Design – CAD, and Manufacturing Processes and Quality Assurance.

MET is the broadest of all engineering technology disciplines, allowing graduates to pursue careers in many segments of industry. The program prepares graduates for their profession by providing a background in the major areas of Mechanical Engineering Technology; but also allows students to continue towards a Baccalaureate Degree.

The Mechanical Engineering Technology program is accredited by the Technology Accreditation Commission of the Accreditation Board of Engineering and Technology (TAC/ABET).

**SEQUENCE OF COURSES: This model is a two-year course schedule for students meeting all program requirements and deciding to pursue full-time study. Schedules will be redesigned for those requiring preparatory courses or those deciding to pursue part-time study.**

**Program supervised by:**

William G. Kelly

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Telephone: 607 778-5010

E-mail: kelly\_w@sunybroome.edu

## FIRST YEAR

### Fall Semester 17.5 Credits

- Soc. Sci. Elective Credits: 3
- CST 106 - Computers in Technology
- ENG 110 - College Writing I
- MAT 130 - Applied Algebra and Trigonometry  
See note 1
- MET 113 - Engineering Drawing I w/CAD
- MET 121 - Manufacturing Processes I
- TEC 100 - Introduction to Technology

### Spring Semester 18 Credits

- ENG 150 - Technical Writing
- MET 116 - Engineering Drawing II w/CAD
- MET 122 - Manufacturing Processes II
- MET 134 - Statics
- MET 164 - Quality Systems

- PHY 161 - Physics I: Mechanics and Heat

## SECOND YEAR

### Fall Semester 17 Credits

- MAT 160 - Applied Calculus I  
See note 1
- MET 211 - Mechanical CAD
- MET 234 - Dynamics
- MET 235 - Strength of Materials
- MET 243 - Fluid Mechanics
- SOS 120 - Science, Technology, and Democratic Society

### Spring Semester 19 Credits

- EET 210 - Applied Electricity and Electronics
- MET 200 - Senior Seminar
- MET 238 - Mechanical Design
- MET 244 - Thermodynamics
- MET 252W - Engineering Materials
- PHY 162 - Physics II: Wave Motion, Electromagnetism, and Atomic Physics

## GRADUATION REQUIREMENTS: 71.5 CREDITS

### Note

1. Or MAT 181, 182

2. Or PHY 181, 182

W = Writing Emphasis Course

### Cooperative Work Experience

Selected students can receive on-the-job experience directly related to the Mechanical Engineering Technology field by registering for MET 298 Cooperative Work Experience. To be eligible, students must be registered full-time in the Department, have a GPA of at least 2.2 with no 'F' grades, and have completed at least 24 credit hours.

## **Telecommunications Technology - Verizon: A.A.S.**

*Associate in Applied Science*

This program, called NEXT STEP, has been designed in cooperation with the Verizon Communications, the Communications Workers of America, and the International Brotherhood of Electrical Workers. It is offered at a number of community colleges and technical colleges throughout New York State and New England and gives qualified **Verizon employees** an opportunity to earn an A.A.S. Degree. Those Verizon employees who qualify will be given one day off from work per week with pay to attend classes.

Students will complete 60 credit hours of work over a 4-year period to complete the work. Courses for the NEXT STEP Program are listed below and will address three areas of skills and knowledge: general education, electronics, and telecommunications. Laptop computers are provided to all students and they are an integral part of the program.

**Program supervised by:**

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Program Coordinator

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### First Semester

- CST 106 - Computers in Technology
- MAT 148 - Applied Technical Mathematics I

### Second Semester

- EET 168 - Digital Systems I
- ENG 110 - College Writing I

### Third Semester

- EET 169 - Digital Systems II
- MAT 149 - Applied Technical Mathematics-IS

### Fourth Semester

- EET 122 - Electrical Circuits
- PHY 160 - Applied Physics-IS

### Fifth Semester

- EET 151 - Introduction to Electronics
- TLC 110 - Telecommunications I

### Sixth Semester

- EET 152 - Communications Electronics
- TLC 120 - Telecommunications II

## Seventh Semester

- ENG 150 - Technical Writing
- TLC 210 - Telecommunications III

## Eighth Semester

- SOS 120 - Science, Technology, and Democratic Society
- TLC 220 - Telecommunications IV





# Course Descriptions

## Section 12



# Course Descriptions

## ADN 105 - Meeting Human Needs I

The focus of this course is identifying and integrating the hierarchy of human needs into the nursing care of persons across the life cycle. The philosophy of the program is introduced which includes our beliefs about human caring, the nature of human beings, health and nursing. Gordon's Eleven Functions of Man which provided the organizing structure of the nursing program is also introduced. Emphasis is placed on health assessment, health promotion, and health maintenance related to self and others. The Nursing Process is introduced as the modality through which critical thinking skills are applied in the delivery of care. The student provides care in a variety of settings with close supervision. The eight roles of the Associate Degree nurse are introduced.

### Prerequisite- Corequisite

Prerequisites: BIO 131 Human Biology I, ENG 110 College Writing I, and PSY 110 General Psychology.

Credits: 7

### Hours

4 Class Hours, 2 Lab Hours, 6 Clinical Hours/Wk for 15 Weeks

### Course Profile

Learning Outcomes of the Course:

Upon completion of this course the student will practice as a caregiver who demonstrates basic competency in a real or simulated simulation in the eight roles of the nurse which include: communication, professional behaviors, assessment, clinical decision-making, caring interventions, teaching/learning, collaboration, and manager of care.

Upon successful completion of this course the student will be able to:

1. Incorporate hierarchy of human needs.
2. Assess the following functional health patterns:
  - a. health perception/health management
  - b. nutritional/metabolic patterns
  - c. elimination pattern
  - d. activity/exercise pattern
  - e. cognitive/perceptual pattern
  - f. sleep/rest patterns
  - g. self-perception/self-concept patterns
  - h. role/relationship patterns
  - i. sexuality/reproductive patterns
  - j. coping/stress patterns
  - k. values/beliefs patterns
3. Assess variations across the life cycle utilizing Gordon's framework.
4. Apply the Nursing Process utilizing Gordon's framework.
5. Identify Pharmacological concepts as applied to healthy individuals across the lifespan.
6. Incorporate the dimensions of human caring in the care of adults.

## **ADN 106 - Meeting Human Needs II**

The focus of this course is on the care of persons who have actual/potential health problems related to the Health Patterns or Health Perception/Health Management, and Nutrition/Metabolic. Classroom theory and clinical practice integrate all eleven of Gordon's Functional Health Patterns. Integrated into the course are our beliefs about human caring, the nature of human beings, health and nursing. The concepts of hierarchy of human needs and life-cycle are applied to the nursing care of persons with common health problems. The Nursing Process is utilized as the modality through which critical thinking skills are applied in the delivery of care. Emphasis is placed on health assessment, health promotion, health restoration, and health maintenance. The student provides nursing care with supervision in a variety of settings. The eight roles of the Associate Degree nurse are further developed. This course meets the Writing Emphasis requirement.

### **Prerequisite- Corequisite**

Prerequisite: ADN 105 Meeting Human Needs I, BIO 131 Human Biology I, ENG 110 College Writing I, PSY 110 General Psychology

Corequisite: BIO 132 Human Biology II, MDA 210 Pharmacology

Credits: 7

### **Hours**

4 Class Hours, 2 Laboratory Hours, 6 Clinical Hours/Wk for 15 Weeks

### **Course Profile**

Learning Outcomes of the Course:

Upon completion of ADN 106, the student will practice as a caregiver who demonstrates intermediate competency in the eight roles of the nurse which include: communication, professional behaviors, assessment, clinical decision-making, caring interventions, teaching/learning, collaboration, and manager of care. When caring for persons experiencing disruptions in Health Perception/Health Management and Nutrition/Metabolic Function, the student will:

1. Assess clients according to Gordon's Functional Health Patterns.
2. Incorporate Maslow's Hierarchy of Human Needs into care measures.
3. Incorporate variations in clients across the life cycle in dealing with disruption in human functioning.
4. Apply the Nursing Process utilizing Gordon's framework in the care of persons experiencing disruption in human functioning.
5. Incorporate the dimensions of human caring in the care of persons experiencing disruption in human functioning.

## **ADN 112 - Holistic Health**

This course is open to all majors and requires no prerequisite. An introductory foundation regarding complementary medicine, with an emphasis on holistic health for the individual and the healthcare provider, with a focus on body, mind, spirit, and emotions. Diversity of healthcare is investigated as the student becomes familiar with multiple alternative therapies, stress management, meditation, exercise, and nutrition.

Credits: 2

### **Hours**



2 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Recognize the holistic concepts of whole person health and how it affects wellness and disease prevention.
2. Describe personal wellness model of body, mind, and spirit.
3. Understand and explore how stress affects all the levels of our being.
4. Compare and contrast traditional western medicine from complementary therapies.
5. Identify how complementary medicines work.
6. Identify traditional Chinese, Ayurveda, Native American healing elements.
7. Recognize various botanical healing medicines.
8. List manual healing practices.
9. Describe mind-body techniques.
10. Identify Spritual Therapies.

## **ADN 116 - Humor and Healthy Living**

Research has proven that humor has important benefits for one's health which include providing stress relief and enhanced coping skills, strengthening the immune system, and facilitating communication. This class will provide an overview of the benefits of humor, enlighten the participant about current research, and enable him or her to develop ways to incorporate humor in everyday life.

Credits: 1

### **Hours**

1 Class Hour

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Experience increased awareness of the benefits of humor and laughter.
2. Explore humor from a historical perspective.
3. Assess impact of humor in his or her personal life.
4. Explore humor as a form of complementary therapy.
5. Develop strategies to incorporate humor into his or her personal life.
6. Gather a resource bibliography for humor.

## **ADN 211 - Meeting Human Needs III**

The focus of this course is on the nursing care of persons who have actual/potential health problems related to health patterns of Nutritional/Metabolic, Elimination, and Sexuality/Reproductive. Classroom theory and clinical practice integrate all eleven of Gordon's Functional Health Patterns. Integrated in this course are our beliefs about human caring, the nature of human beings, health and

nursing. The concepts of hierarchy of human needs and life-cycle are applied to the nursing care of persons with common health problems. The nursing process is utilized as the modality through which critical thinking skills are applied in the delivery of care. Emphasis is placed on health assessment, health promotion, health restoration and health maintenance. The student provides nursing care to persons in both specialty and general medical/surgical units, as well as in community settings. With increasing autonomy, students assume the eight roles of the Associate Degree nurse.

**Prerequisite- Corequisite**

Prerequisites: ADN 106 Meeting Human Needs II, BIO 132 Human Biology II, PSY 210 Developmental Psychology and MDA 210 Pharmacology.

Credits: 7

**Hours**

4.5 Class Hours, .75 Laboratory Hours, 6 Clinical Hours/Wk for 15 Weeks

**Course Profile**

Learning Outcomes of the Course:

Upon Completion of ADN 211, the student will practice as a caregiver who demonstrates more advanced competency in the eight roles of the nurse which include: communication, professional behaviors, assessment, clinical decision-making, caring interventions, teaching/learning, collaboration, and manager of care. When caring for persons experiencing disruptions in Sexuality/Reproductive, Nutritional/Metabolic, and Elimination, the student will:

1. Assess clients according to Gordon's Functional Health Patterns.
2. Prioritize care according to Maslow's Hierarchy of Human Needs.
3. Evaluate variations in assessments across the life-cycle in clients dealing with disruption of human functioning.
4. Utilize the nursing process in the care of clients experiencing disruption in human functioning.
5. Incorporate the dimensions of human caring in the care of clients and significant others experiencing disruptions in human functioning.

**ADN 212 - Meeting Human Needs IV**

The focus of this course is on the nursing care of persons who have actual/potential health problems related to health patterns of Activity/Exercise, Self-Perception, and Sleep/Rest. Classroom theory and clinical practice integrate all eleven of Gordon's Functional Health Patterns. Integrated in this course are our beliefs about human caring, the nature of human beings, health and nursing. The concepts of hierarchy of human needs and life-cycle are applied to the nursing care of persons with common health problems. The nursing process is utilized as the modality through which critical thinking skills are applied in the delivery of care. Emphasis is placed on health assessment, health promotion, health restoration and health maintenance. The student provides nursing care to persons in both specialty and general medical/surgical units, as well as in community settings. With increasing autonomy, students assume the eight roles of the Associate Degree nurse.

**Prerequisite- Corequisite**

Prerequisites: ADN 106 Meeting Human Needs II, BIO 132 Human Biology II, PSY 210 Developmental Psychology, and MDA 210 Pharmacology.

Credits: 7

**Hours**

4.5 Class Hours, .75 Laboratory Hours, 6 Clinical Hours/Wk for 15 Weeks

### **Course Profile**

Learning Outcomes of the Course:

Upon completion of ADN 212, the student will practice as a caregiver who demonstrates more advanced competency in the eight roles of the nurse which include: communication, professional behaviors, assessment, clinical decision-making, caring interventions, teaching/learning, collaboration, and manager of care. When caring for persons experiencing disruptions in Activity/Exercise, Self-Perception, and Sleep/Rest, the student will:

1. Assess clients according to Gordon's Functional Health Patterns.
2. Prioritize care according to Maslow's Hierarchy of Human Needs.
3. Evaluate variations in assessments across the life-cycle in clients dealing with disruption of human functioning.
4. Utilize the nursing process in the care of clients experiencing disruption in human functioning.
5. Incorporate the dimensions of human caring in the care of clients and significant others experiencing disruptions in human functions.

## **ADN 213 - Meeting Human Needs V**

The focus of this course is on the nursing care of persons who have actual/potential health problems related to the health patterns of Activity/Exercise, Role/Relationship and Values and Beliefs. Classroom theory and clinical practice integrate all eleven of Gordon's Functional Health Patterns. Integrated in this course are our beliefs about human caring, the nature of human beings, health and nursing. The concepts of hierarchy of human needs and life-cycle are applied to the nursing care of persons with common health problems. The nursing process is utilized as the modality through which critical thinking skills are applied in the delivery of care. Emphasis is placed on health assessment, health promotion, health restoration and health maintenance. The student provides nursing care to persons and both specialty and general medical/surgical units, as well as community settings. With increased autonomy, the students assume the eight roles of the Associate Degree nurse.

### **Prerequisite- Corequisite**

Prerequisites: ADN 106 Meeting Human Needs II, BIO 132 Human Biology II, PSY 210 Developmental Psychology, and MDA 210 Pharmacology.

Credits: 7

### **Hours**

4.5 Class Hours, .75 Laboratory Hours, 6 Clinical Hours/Wk for 15 Weeks

### **Course Profile**

Learning Outcomes of the Course:

Upon completion of ADN 213, the student will practice as a caregiver who demonstrates more advanced competency in the eight roles of the nurse which include: communication, professional behaviors, assessment, clinical decision-making, caring interventions, teaching/learning, collaboration, and manager of care. When caring for persons experiencing disruptions in Activity/Exercise, Role/Relationships, and Values/Beliefs, the student will:

1. Assess clients according to Gordon's Functional Health Patterns.
2. Prioritize care according to Maslow's Hierarchy of Human Needs.
3. Evaluate variations in assessments across the life-cycle in clients dealing with disruption of human functioning.



4. Utilize the nursing process in the care of clients experiencing disruption in human functioning.
5. Incorporate the dimensions of human caring in the care of clients and significant others experiencing disruptions in human functioning.

## **ADN 214 - Meeting Human Needs VI**

The focus of this course is on the nursing care of persons who have actual/potential health problems related to the health patterns of: Cognitive/Perceptual and Coping/Stress. Classroom theory and clinical practice integrate all eleven of Gordon's Functional Health Patterns. Integrated in this course are our beliefs about human caring, the nature of human beings, health and nursing. The concepts of hierarchy of human needs and life-cycle are applied to the nursing care of persons with common health problems. The nursing process is utilized as the modality through which critical thinking skills are applied in the delivery of care. Emphasis is placed on health assessment, health promotion, health restoration, and health maintenance. The student provides nursing care to persons and both specialty and general medical/surgical units, as well as in community settings. With increased autonomy, students assume the eight roles of the Associate Degree nurse. Clinical hours: 6 hr/week for 15 weeks.

### **Prerequisite- Corequisite**

Prerequisites: ADN 106 Meeting Human Needs II, BIO 132 Human Biology II, PSY 210 Developmental Psychology, MDA 210 Pharmacology.

Credits: 7

### **Hours**

4.5 Class Hours, .75 Clinical Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon completion of ADN 214, the student will practice as a caregiver who demonstrates more advanced competency in the eight roles of the nurse which include: communication, professional behaviors, assessment, clinical decision-making, caring interventions, teaching/learning, collaboration, and manager of care. When caring for persons experiencing disruptions in Cognitive/Perceptual, and Coping/Stress, the student will:

1. Assess clients according to Gordon's Functional Health Patterns.
2. Prioritize care according to Maslow's Hierarchy of Human Needs.
3. Evaluate variations in assessments across the life-cycle in clients dealing with disruption of human functioning.
4. Utilize the nursing process in the care of clients experiencing disruption in human functioning.
5. Incorporate the dimensions of human caring in the care of clients and significant others experiencing disruptions in human functioning.

## **ADN 298 - Nursing Seminar**

The purpose of this course is to facilitate transition of returning, transfer, and advanced placement students into the nursing program. The course focuses on the nursing department philosophy, the conceptual framework, the nursing process, and use of the course syllabi. Students are required to

successfully demonstrate selected nursing skills to pass the course. In order to be successful in this course, independent study and skills review are strongly recommended.

**Prerequisite- Corequisite**

Prerequisites: Students must have met requirements for transfer or have passed the required challenge examination for advanced placement.

Credits: 1

**Hours**

1 Seminar Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Verbalize knowledge of policies and procedures of the BCC nursing department.
2. Explain the use of Gordon's Functional Health Patterns, the nursing process, Maslow's Hierarchy of needs, use of the Life-Cycle, and caring in the nursing program.
3. Demonstrate successful completion of required skills challenge.

**ADN 299 - Independent Study**

An individual student project in the nursing field which is beyond the scope of requirements of the courses offered by the department conducted under the direction of a nursing faculty member and approved by the department chairperson. Independent study is available to students who have completed one semester of Professional Nursing Courses.

**Prerequisite- Corequisite**

Prerequisite: ADN 105 Meeting Human Needs I

Credits: (1-3)

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate the ability to work independently to achieve a goal.
2. Demonstrate proficiency in the specific area of study.

**ANT 111 - Introduction to Cultural Anthropology**

Introduction to the study of culture as the behavioral adaptation unique to human societies. Cultural characteristics shared by all humans and major variations found among specific groups. Explanations for rules of social interaction in common activities, the social functions of institutions, language in a culturally defined system of communication, modernization in our own and third world societies.

Credits: 3



**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate knowledge of basic issues, methods and theories in cultural anthropology.
2. Recognize and apply scientific methodology in theory and practice.
3. Develop comparative knowledge of a variety of case studies and ethnographies.
4. Understand beliefs and behaviors different from their own.
5. Categorize, analyze and manipulate quantitative and qualitative cultural anthropological data.
6. Develop tolerance and respect for the cultures of others.
7. Identify and articulate ethical dilemmas in the field of cultural anthropology.

**ANT 112 - Introduction to Archaeology**

An introduction to current archaeological issues, methods, and theories. The nature of archaeological data and the means by which they are gathered, analyzed, dated, and interpreted, will be considered by reviewing current research on both prehistoric and historic sites. Scientific methods of research formulation, survey, excavation and analysis will be emphasized in both the laboratory and lecture. The laboratory also includes field trips.

Credits: 4

**Hours**

3 Class Hours, 3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate knowledge of basic archaeological issues, methods and theories.
2. Recognize and apply scientific methodology in theory and practice.
3. Identify principal archaeological sites, cultures, periods and processes.
4. Apply their knowledge of scientific archaeology by critiquing an example of popular pseudoscience in archaeology.
5. Categorize, analyze and manipulate quantitative and qualitative archaeological data.
6. Develop tolerance and respect for the cultures of others.
7. Identify and articulate ethical dilemmas in the field of archaeology.

**ANT 113 - Introduction to Biological Anthropology**

An introduction to the biological and evolutionary history of humans. The course will consider basic concepts of evolutionary theory and human genetics, the fossil record for human evolution, the behavior and ecology of living non-human primates, and human population biological adaptation and diversity. Laboratory will include study of primate evolution, human anatomy, and DNA analysis. The laboratory also requires a full weekend field trip.

Credits: 4

**Hours**

3 Class Hours, 3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate knowledge of basic issues, methods and theories in biological anthropology.
2. Recognize and apply scientific methodology in theory and practice.
3. Evaluate the scientific evidence for human evolution.
4. Apply their knowledge of scientific biological anthropology by critiquing an example of popular psuedoscience in biological anthropology.
5. Categorize, analyze and manipulate quantitative and qualitative biological anthropological data.
6. Develop tolerance and respect for the cultures of others.
7. Identify and articulate ethical dilemmas in the field of biological anthropology.

**ANT 114 - Language, Culture, and Communication**

An introduction to the multifaceted meanings and uses of language in society. Basic discussion of issues in the evolution of language, language learning, language and cultural meaning and sociolinguistics. Relationships between language and class, race and gender.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Better understand the relationship between language, power and society as expressed through multilingualism, diglossia, language and social identity, and language ideology, among other concepts discussed in this course.
2. Define and provide relevant examples of all the important terms, concepts and expressions discussed in this course.
3. Add to, and critique, classmates' understanding of important course concepts.
4. Summarize and critique at least two scholarly essays written by professional sociolinguists.
5. Research, write and document a paper addressing problems/issues confronting a linguistic minority.
6. Conduct field research regarding an assigned linguistic variable, analyze the results, and present findings to the class and the instructor.

**ANT 299 - Independent Study**

An individual student project in anthropology which is beyond the scope of requirements of the course offered by the department, conducted under the direction of a faculty member and approved by the department chairperson.

**Prerequisite- Corequisite**

Prerequisite: 3 Semester Hours in Anthropology.

Credits: (1-3)

**Course Profile**

Learning Outcomes of the Course:

Course outcomes will be determined by the instructor with the approval of the department chair and Dean.

## **ARA 101 - Beginners Arabic I**

Introduction to the skills of listening, reading, speaking and writing with exposure to Arabic culture and peoples. Emphasis on developing communicative strategies in Arabic.

Credits: 4

**Hours**

4

## **ARA 102 - Beginning Arabic II**

This is the second part of the first-year language sequence and continues to build on the skills of listening, reading, speaking and writing acquired in ARA 101. There will be an emphasis on the ability to use the target language to accomplish basic communicative tasks. Students should expect to be immersed in the language. English will be used at a minimum. The course promotes understanding and appreciation of the Arabic culture.

Appropriate course for beginners. Heritage speakers (students who are exposed to a language other than English at home) and native speakers of Arabic should not enroll in ARA 102.

**Prerequisite- Corequisite**

Prerequisite: ARA 101 Beginning Arabic I

Credits: 4

**Hours**

4 Lecture Hours

**Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Describe family, activities and events in Arabic.
2. Use the past tense of simple verbs as well as use articles, possessive and demonstrative adjectives, interrogative expressions, and time-related concepts including days, months and holidays.
3. Describe simple actions in the past.
4. Express basic needs in the spoken and written language.
5. Formulate questions and statements in the spoken and written language.
6. Recognize gender and plural inflections in Arabic.
7. Speak about themselves and others in compound sentences.
8. Demonstrate comprehension of sentence-length statements or questions in a limited number of

content areas.

9. Interpret the written target language in texts that are linguistically non-complex.

10. Have an understanding of the social life and cultures of the Arab world.

## **ART 102 - History of Western Art I**

An overview of Western Art and Architecture from the 25,000 B.C.E. to about 1350 C.E. Study of objects, sculptures, paintings, ceramics, and architecture with a focus on the social, religious, political, and philosophical influences that affected cultural development in the Ancient World. Slide lecture format.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Broaden the student's knowledge of how works of art and architecture reflect and relate to the natural and built environments.
2. Have developed analytical approaches to discussing the cultures of the world, and their artistic creations. The students will use writing as a critical analysis tool for the interpretation of works of art.
3. Have developed writing skills through a series of creative exercises in research and person expression. The goal of the writing will be to create a substantial research project that focuses on multiple aspects of a single work of art. The Writing Center in the Library is available to assist any student with the process of completing the assignments.
4. Correctly identify a broad range of art production, and relate that art to the social, political, economic and philosophical context of its time.

## **ART 103 - History of Western Art II**

Survey of the visual arts in Western culture from the early Renaissance until today, revealing the ways that the world and the thoughts of men and women have changed during this period, and how evolving ideas are reflected in works of art. Slide lecture format.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Broaden the student's knowledge of how works of art and architecture reflect and relate to the natural and built environments.
2. Have developed analytical approaches to discussing the cultures of the world, and their artistic creations.
3. Have developed writing skills through a series of creative exercises in research and personal



expression. The goal of the writing will be to create a substantial research project that focuses on multiple aspects of a single work of art.

4. Correctly identify a broad range of art production, and relate that art to the social, political, economic and philosophical context of its time.

## **ART 104 - History of Asian Art**

History of Asian Art is appropriate for all students who are interested in the cultural traditions and artistic expressions of Asian countries. This course presents a general survey of the development of Asian Art and Architectural forms in the Far East including India, Japan and China with supplementary study of Korea, Tibet, Indonesia, Burma and Thailand. Cultural traditions, especially Buddhism introduced. Prior experience in art history is not necessary. The format involves slide lecture, readings and class discussion.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Broaden the student's knowledge of how works of art and architecture reflect and relate to the natural and built environments.
2. Have developed analytical approaches to discussing cultures of the world, and their artistic creations.
3. Have developed writing skills through the development of a research project focusing on a particular topic in Asian Art.
4. Identify a broad range of artistic production, and to relate that art to the social, political, philosophical, and economic context of its time.

## **ART 105 - Introduction to Two-Dimensional Design**

Introduction to design involves the student with investigation of visual perception and organization. Training the eye to become sensitive to design elements and principles is emphasized. Critical analysis of point, line, shape, value, texture, and color; and balance, proportion, scale, rhythm, and unity. The student will become familiar with a variety of media and intellectual comprehension of text, lecture, and visual examples. Class projects will focus on learning design methods that are based on logic and expression, to create spatial illusion within a two-dimensional context.

Credits: 3

### **Hours**

2 Class Hours, 2 Studio Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:



1. Train their eye to be analytical and critical enabling them to become independent thinkers and solve design problems on their own, transforming theory into practical application.
2. Gain self-confidence in basic composition techniques in preparation for advanced two-dimensional presentations such as painting and graphic illustration. This course will provide a foundation for compositional study in three-dimensional forms such as architectural models, interior design, landscape design, sculpture, fashion design, and product design.
3. Understand the emotional and symbolic significance of visual composition therefore considering it as an important tool for conveying a cultural or hidden message in design products.
4. Conduct themselves as a professional designer; learn organizational skills and manage their time.
5. Think like a professional designer; be creative within given limitations, methodical, make choices based on logic, and give special attention to the development of details.

## **ART 106 - Introduction to Three-Dimensional Design**

Developing sensitivity and awareness of our spatial environment is the object of this course. Aesthetic and functional elements of three-dimensional design are explored. Through reading, projects, lectures and field trips, techniques are explored to assist in heightening awareness. This enables the student to understand the functional and aesthetic examples of the three-dimensional environment. Emphasis is placed on studio projects.

Credits: 3

### **Hours**

2 Class Hours, 2 Studio Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply the design process of layering (adding) & editing (subtracting) visual information and learn to create three-dimensionally.
2. Develop a thorough understanding of how applying the elements and principles of design the artist/designer can create a limitless possibility of forms that are aesthetically appealing, functional, thought-provoking and expressive. Students will learn the importance of self-criticism and challenging their own abilities both conceptually and technically.
3. Establish a personal work ethic, time management/organizational skills and a professional design vocabulary leading to the clear articulation of their ideas, working process and intentions. They will learn how to constructively criticize their own work, and accept constructive criticism from others.
4. Recognize good design and know when to stop in the creative process. Build self-confidence and pride in accomplishing successful solutions to problems presented and to know when they have done well in this process.
5. Express themselves and find their own personal vision and how to integrate this with the requirements of specific design problems presented during the semester. Students will also develop a design vocabulary that relates to materials, processes and design theory. They will be exposed to the critical importance of being able to professionally articulate their ideas, working process and intentions to others.

## **ART 107 - Color Theory**

An introduction to the complex language of color, including the investigation of additive and subtractive systems in traditional and electronic applications. Students gain practical knowledge and visual sensitivity giving them self-confidence in applying color to graphic presentations and three-dimensional forms. Emotional, symbolic, and cultural significance of color is explored through visual examples in historical and contemporary contexts. Knowledge applicable to painting, printmaking, illustration, website design, fashion design, interior design, landscape design, architecture, sculpture, and product design. Coursework includes experimentation with various materials, lectures, discussions, and presentations.

Credits: 3

**Cross-listed**

COM 107

**Hours**

1 Class Hour, 2 Studio Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Develop a physical sensitivity and analytical eye for color, enabling one to transform theory into practical application.
2. Employ acquired knowledge to further enhance the basic skills required for drawing, painting, graphic design (visual communication), animation, interior design, illustration, and other applied art fields.
3. Solve design problems involving color enabling them to develop self-confidence in regard to making independent decisions.
4. Apply theories connected with emotional, symbolic, and cultural significance of color, to contexts such as fine, applied art and art history.

## **ART 108 - History of Architecture I**

Overview of 40 centuries of building, beginning in Ancient Egypt. The student follows the political technological, religious and social movements that have influenced the major design styles, outstanding architects, and designer of each era through the Gothic period.

Credits: 3

**Hours**

3 Class Hours

## **ART 109 - History of Architecture II**

Overview of the history of buildings from the Early Renaissance to the present. Students achieve an historical perspective on and understanding of the development and evolution of architectural design.

Credits: 3

**Hours**

3 Class Hours

## **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify major architectural monuments throughout historical periods covered in class.
2. Identify and label specific characteristics of said monuments and periods, employing appropriate vocabulary.
3. Address the social, historical, political and/or economic contexts in which architectural constructions are produced.

## **ART 110 - Modern Art**

Art of the late 19th century. Impressionism (circa 1870) to Cubism and other forms of abstract art. Panorama of 20th century visual movements including Futurism, Surrealism, Abstract Expressionism, Pop Art, and Post-Modernism. Slide/lecture format and field trips.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Broaden the student's knowledge of how works of art and architecture reflect and relate to the cultures that produced them.
2. Develop analytical approaches to discussing concepts and theories of modern art.
3. Develop writing skills through creative exercises in research and personal expression.

## **ART 111 - History of Decorative Arts: 1600-Present**

Introduction to the development of style in fabric, furniture and accessories for the interior from 1600 to the present. Emphasis will be placed on the history of American interiors. Required for interior design students, recommended for students in Art and Design and as an elective for students interested in history or American Studies.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify periods in western furniture and decorative elements.
2. Understand of causes in stylistic change.
3. Understand the social, economic, political and technological context of American culture from 1600 to the present.

## **ART 112 - Beginning Photography**

Basics of camera design and operation, plus the fundamentals of photographic visualization and composition; line, form, color, light shadow. Darkroom procedures, film processing, basic printmaking, selecting printing techniques. (Students can sign-out cameras and other supplies from the Communications Department thus reducing the overall costs for photo supplies.)

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Control camera, composition, and photographic approach (sharp focus, shallow D.O.F., blur motion, frozen image, etc.)
2. Make choices regarding film, paper, lens, filters and light to achieve a good quality photograph as a final product.

## **ART 113 - History of Modern Design**

Survey of modern design examines changing developments in graphics, industrial design, architecture and decorative arts from 1851 to the present. Beginning with The Exhibition of Art and Industry in London and concluding with postmodernism, mass culture and the role consumption plays in design will be explored. The course focuses on design as a creative activity influenced by technology, economics and social history.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the influence of technology, culture and historical events on modern design.
2. Identify visual characteristics of different modern styles, know when they developed, and who were the most important designers associated with each stylistic period.
3. Develop a vocabulary that will allow you to discuss historic aspects of modern design in an articulate manner.
4. Have a fuller understanding of the interrelationship of art, technology, mass consumption, production and marketing.



5. Be aware of the way in which American values have driven consumerism and modern design.
6. Think in a more interdisciplinary way.

## **ART 114 - The History of Art and the Human Figure**

A chronological survey of the representation of the human body in the production of art from antiquity to the present. Emphasis is on the belief systems of specific cultures, and how those beliefs influence self-perception, and self-expression. Students will study basic human anatomy looking closely at the rise of anatomical science and its influence upon Renaissance and Baroque art. The current use and misuse of the human body in media is also explored. Format involves slide lecture, readings, and class discussion.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Broaden the student's knowledge of how works of art depicting the human form relate to the environments which created them.
2. Develop analytical approaches to discussing cultures of the world and their artistic expressions.
3. Develop writing skills through the writing of a substantial research paper which addresses a subject pertinent to the history of the human figure in art.
4. Relate the production of art to the economic, social, political and philosophical contexts of its time.

## **ART 115 - Beginning Drawing**

Emphasis on a series of open-ended interrelated problems dealing with visual language and its vocabulary, and organization. Drawing problems will intensify the student's perception and comprehension of the elements and principles of design including point, line, shape, tone, texture, and color; and balance, proportion, scale, rhythm, and unity in composition. Student's perception and comprehension of light, space, and form will be given special emphasis. Format involves intensive instruction and demonstrations in charcoal, pencil, pen and ink, and mixed media as a means to personal investigation, understanding, and expression. Subjects include landscape, figure, and still-life. Various historical models will be studied through text and visual examples. Students are encouraged to develop their own style and viewpoint through discussion of art criticism.

Credits: 3

### **Hours**

6 Studio Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have used the formal art elements including line, tonal value, shape, texture, spatial illustration, pattern, color, balance and composition to make a drawing.



2. Have handled charcoal, ink, pen, brush, conte, color media and mixed in order to produce a drawing.
3. Have used concepts of expression and technique in drawing.
4. Have learned about at least ten great artists and their work in drawing.
5. Have produced a portfolio of work (a minimum of ten finished pieces).

## **ART 116 - Painting I**

Lectures and practical application will focus on design fundamentals to depict form in space. Subjects include value studies of form light, front light, rim light, and back light. Paint-handling, position, figure-based vignettes, still-life, landscape, and abstraction will be explored. In the Summer session, the landscape will be the subject of lectures and practical applications. Lectures will include value studies of the sunny day, gray day, and moonlit sky with and without recession.

### **Prerequisite- Corequisite**

Prerequisite: ART 115 Drawing or portfolio review.

Credits: 3

### **Hours**

3 Class Hours, 6 Studio Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Mix a constant chroma, constant hue palette.
2. Know the values and modeling characteristics for figures and object in normal, strong and weak, front lighting, form lighting, rim lighting, back lighting, and ability to execute a painting in any of these lighting conditions.
3. Make an underpainting (imprimature) demonstrating a knowledge of drawing, values, and edges.
4. Paint a figure painting.
5. Know the values and modeling characteristics of landscape painting, first for simple sunny day, gray day, moonlight in normal, strong and weak circumstances, then complicated landscape with recession and overlapping forms for sunny day, gray day and moonlight.
6. Execute value studies for aforementioned landscapes.

## **ART 117 - Basic Metal Working Techniques**

Acquaints art students who are taking three-dimensional design or Sculpture with basic techniques and safety measures involved in working with various metals. Students will be introduced to welding, casting, and forging techniques.

Credits: 2

### **Hours**

1 Class Hour, 2 Studio Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate three forms of metal working: welding, forging, and casting.
2. Apply those techniques to projects designed and executed in three-dimensional design.

## **ART 120 - Beginning Sculpture**

This course is designed for students to realize the creative process that takes place in the art making of sculpture. Students will be introduced to various fundamental techniques and treatment of sculptural materials. Throughout the course, emphasis will be placed on experimentation, reading, and discussion. This course will ultimately assist the student to further develop an artistic direction in three-dimensional studies.

### **Prerequisite- Corequisite**

Prerequisite: Three-Dimensional Design for Art majors. An elective for non-art majors.

Credits: 3

### **Hours**

6 Studio Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Execute the creative process of traditional sculpture.
2. Build the armature, sculpting the clay and casting plaster.
3. Create sculpture from observation.
4. Develop a basic working knowledge of sculpting and casting.
5. Compile the professional work of specific artists in traditional and modern periods.
6. State personal creative ideas and direction for future 3D studies.

## **ART 125 - Introduction to Computer Graphics**

The study of Visual Communication theory relating to applied arts fields such as advertising and editorial design, animation, gaming, and web design. Students are introduced to vector and raster graphic programs on Macintosh computers, and learn how to develop initial thumbnail sketches into final design comprehensives. Other topics include digital photography, scanning, image manipulation, color correction, and typography.

### **Prerequisite- Corequisite**

Prerequisite: ART 105 Introduction to Two-Dimensional Design, BIT 108 introduction to PC and Windows or equivalent.

Credits: 3

### **Cross-listed**

COM 124

### **Hours**

2 Class Hours, 2 Studio Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply classical design theory to page layout, typographical composition and image manipulation.
2. Employ knowledge regarding various vector, raster and page layout digital software.
3. Articulate verbally and in written form the inherent process for conceiving a visual communication piece, such as a poster, print media advertisement or program cover.
4. Recognize significant cotemporary and historic graphic designers that were integral to the development of several design movements.
5. Describe verbally and in written form distinguishing characteristics relating to several design movements.
6. Investigate various professions relating to various visual communication fields, such as editorial design, advertising design, corporate design, book design, music/record design, information design, and animation.

## **ART 130 - Introduction to Ceramics: Construction and Glazes**

Study of the basic processes of design and creation of clay forms, both functional and sculptural. Techniques of handbuilding, throwing on the potter's wheel, glazing and firing will be explored.

### **Prerequisite- Corequisite**

Prerequisite: ART 106 Introduction to Three-Dimensional Design.

Credits: 3

### **Hours**

6 Studio hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate the aesthetic possibilities of clay.
2. Wed aesthetics and utility.
3. Execute the history of ceramic sculpture and pottery.
4. Demonstrate fundamental techniques of shaping and glazing.

## **ART 140 - Printmaking**

This three-part course will begin with an introduction to printmaking through the methods of collograph and monotype printing. Then linecuts and woodcuts will be developed, and there will be a concentration on the silkscreen process. The third part will be an historical survey of printmaking and its techniques. This will be accomplished through visits to local print collections.

### **Prerequisite- Corequisite**

Prerequisite: ART 115 Beginning Drawing or ART 105 Introduction to Two-Dimensional Design or portfolio review.

Credits: 3

### **Hours**

6 Studio Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Produce works of art using methods of relief printing, intaglio printing, embossment, and monotype printing.
2. Understand additional methods not covered in class through exposure to the works of other printmakers.
3. Know how to properly mount finished work for display and portfolio presentation.
4. Use printmaking tools and equipment properly.
5. Work in a focused and productive manner.
6. Understand the system of labeling and printing an edition of prints.
7. Have participated in a student art exhibition.
8. Have insight into the history of the medium, how and why it came into being.

## **ART 146 - History of Photography**

This course is designed to give students a strong background in the historic, aesthetic, and cultural background of photography as both a significant art form and important cultural and communications medium. The course content includes topics dealing with the invention of photography as art in the 19th century, great photographers, and new photography.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Know how photography evolved inside and outside the United States and its influence in society.
2. Understand the meaning of images and get ideas from it to apply in other aspects (visuals or not).

## **ART 150 - Perspective Drawing**

Graphic techniques developed for visual presentation of architectural, industrial and aesthetic forms. Studio projects stress creation of the representational image using perspective, color, texture and light. Applicable to advertising and illustration of ideas and products.

### **Prerequisite- Corequisite**

Prerequisite: CIV 113 Engineering Drawing I w/CAD, CIV 119 Architectural Drawing w/CAD, or ART 115 Beginning Drawing, CIV 159 Architectural Drafting w/CAD.

Credits: 3

### **Hours**

2 Class Hours, 2 Studio Hours



## **Course Profile**

### **Learning Outcomes of the Course:**

Upon successful completion of this course the student will be able to:

1. Represent clearly, the reality of form in three-dimensions as we naturally see it.
2. Use a variety of drawing methods on the flat surface to convey layers of space including overlapping of forms, convergence of parallel lines, foreshortening, and reduction in size.
3. Convey a myriad of interior and architectural forms, visually communicating three-dimensional design ideas and products.
4. Compile a number of appropriate viewpoints including one-point, two-point, and three-point perspective drawings to suggest a series of planes in space for specific projects.
5. Select color, texture, and lighting ideas for surfaces, and visually represent on architectural forms and in interior spaces.

## **ART 151 - Special Topics in Art**

Specific topics will be explored through classes that meet for periods shorter than a full semester. Courses can be any study that involves specialized work in the fine arts or related fields such as architecture.

Credits: (1-3)

### **Note**

The courses offered may be studio or lecture format.

## **ART 202 - Commercial Photography**

Students will gain practical experience as to the theory behind and application of commercial photography and illustration. Projects will be relative to today's marketing and societal needs. Lighting and composition will be heavily stressed. Photographic format will be slide film. Lab cost to student approximately \$135 for supplies and processing. Must have camera.

### **Prerequisite- Corequisite**

Prerequisite: Art 112 Beginning Photography or Art 212 Intermediate Photography or by portfolio acceptance by instructor.

Credits: 3

### **Hours**

2 Class Hours, 2 Studio Hours

### **Note**

Must have camera.



## **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Possess a working knowledge of both digital and film photography, and each of their unique applications in both the technical and economic aspects of commercial photography.
2. Have acquired competence in standard and advanced lighting techniques for still life, including three-point lighting and flash photography.
3. Understand how to correctly stage still life subjects in a commercial setting, as well as the ability to follow standard safety protocols when working in a darkroom or laboratory environment.
4. Compile a portfolio of their individual work completed over the course of the semester.
5. Have acquired experience in sharing their work with their peers and instructor(s) in a group-oriented environment (i.e. - participate in peer and instructor evaluated critiques of their assignments).

## **ART 203 - Introduction to Color Photography**

This course provides the successful student with a working knowledge of the technical and aesthetic attributes of the most commonly used color photographic materials and processes, and their commercial and expressive applications.

### **Prerequisite- Corequisite**

Prerequisite: ART 112 or ART 212 or by portfolio acceptance by instructor.

Credits: 3

### **Hours**

2 Class Hours, 2 Studio Hours;

## **ART 210 - Exhibition and Portfolio Planning**

Students will develop an understanding of the practical steps needed to mount an art exhibition, analyze the variety of art forms generally appropriate for creating an appreciation of art in a community, and learn to create a working relationship and dialog with artists. Instruction for assembling a professional portfolio is discussed and reviewed.

### **Prerequisite- Corequisite**

Prerequisite: 3 semester hours of college-level studio art or permission of instructor.

Credits: 2

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Know the wide varieties of exhibition forms that exist and the diverse venues in which they can take place.
2. Know the historic precedent for exhibition in this country and in our own community.
3. Know the variety of people for whom exhibitions have appeal.
4. Know the sectors of the population that can continue to learn about the personal enrichment art and culture can bring into their lives.
5. Know the diverse organizations and commercial endeavors in our community that continually provide opportunities for intellectual and cultural growth.
6. Know the many ways in which exhibitions and cultural programs can be encouraged within a community.
7. Be a person who is a conduit for a variety of cultural activities in the community, finding ways to interconnect two, three or more cultural disciplines.
8. Be active as a volunteer or to seek an academic program that can prepare one for a career in arts management of museum work.

## **ART 212 - Intermediate Photography**

Systems of precise exposure and processing control. Advanced black and white darkroom techniques. Introduction to color theory, processes and printing. Functional portfolio development. Introduction to digital electronic imaging. (Students can sign-out cameras and other supplies from the Communications department thus reducing the overall costs for photo supplies.)

### **Prerequisite- Corequisite**

Prerequisite: ART 112 Beginning Photography or by portfolio acceptance and permission of instructor.

Credits: 3

### **Cross-listed**

COM 212

### **Hours**

2 Class Hours, 2 Studio Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Operate a twins-lens camera, control negative density and print contrast making use of the zone system.
2. Know how to light and operate "strobe lights."

## **ART 213 - Model Building**

Scale models built for specific design problems. Projects to include interiors, buildings, site plans, furniture, stage sets. Recommended for students interested in architecture, landscape design, and set design for theater.

**Prerequisite- Corequisite**

Prerequisite: ART 106 Introduction to Three-Dimensional Design and/or CIV 159 Architectural Drafting I w/CAD.

Credits: 2

**Hours**

2 Class Hours, 2 Studio Hours

**Note**

Required for interior design students

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Produce works of art using methods of relief printing, intaglio printing, embossment, and monotype printing.
2. Analyze additional methods not covered in class through exposure to the works of other printmakers.
3. Mount finished work for display and portfolio presentation.
4. Apply the system of labeling and printing an edition of prints.
5. Critique the social and cultural history of the medium, how & why it came into being.
6. Utilize knowledge of basic color theory as described by the Munsell system.
7. Practice color separation and registration.
8. Select methods and techniques which best allow him/her to express his own personal artistic vision.

**ART 214 - Internship**

Available to second-year Art and Design students with a faculty member's recommendation. Internship requirements will be developed on an individual basis with an art faculty member's supervision.

Credits: (1-4)

**ART 215 - Painting II**

An opportunity to refine the principles explored in Painting I with an emphasis on execution. Preliminary studies in composition will be required before focusing on large-scale finished paintings. Concepts of edges, lighting, planes, forms, value relationships, and brushwork re-examined.

**Prerequisite- Corequisite**

Prerequisite: ART 116 Painting I or portfolio review.

Credits: 3

**Hours**

6 Studio Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply the tradition of classical observational oil painting to the creation of individual expressive artworks.
2. Mix colors, values, and tones that reflect an understanding of classical color schemes and harmonies.
3. Solve compositional problems based on classical design principles.
4. Describe verbally and in writing the process for creating a representational painting.
5. Analyze the artwork of various noteworthy contemporary and historic fine art painters.

**ART 217 - Advanced Drawing**

Advanced course presenting new media techniques and concepts; life drawing emphasized.

**Prerequisite- Corequisite**

Prerequisite: ART 115 Beginning Drawing or portfolio review.

Credits: 3

**Hours**

6 Studio Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Draw from a life model.
2. Understand the use of six types of lines: thin, thick, soft, hard, dark, light.
3. Draw in a linear fashion the following: portraits, still life, interior, landscapes.
4. Make three tone line drawings.

**ART 225 - Illustration**

This course is directed towards the student pursuing an emphasis in graphic arts. It considers the drawn or painted image as a means of communication utilizing narrative imagery and pictorial illusion and space. Students will solve illustrative problems relating to magazine articles, posters, packaging, book covers, children's picture books, and other materials.

**Prerequisite- Corequisite**

Prerequisites: ART 105 Introduction to Two-Dimensional Design, ART 115 Beginning Drawing, and an art history elective.

Credits: 3

**Hours**

6 Studio Hours



## **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Employ fundamental problem solving techniques inherent with using illustration to solve client's objectives.
2. Develop a personal style of illustration through investigation of materials, process, and willingness to explore and experiment.
3. Apply the various objectives and applications of illustration, including but not limited to, advertising and editorial design, medical illustration, publishing, children's book illustration, etc.
4. Articulate both verbally and in written form the basic history of illustration and the significant illustrators who shaped it.

## **ART 226 - Advanced Computer Imagery**

A continuation of Visual Communication theory that students were introduced to during ART 125/COM 124. Through more advanced visual design problems, students will develop their conceptual problem-solving skills relative to applied arts fields such as advertising and editorial design, animation, gaming, and web design. Advanced digital imagery techniques will be introduced using Photoshop CS2, in addition to page layout theory using QuarkXPress.

### **Prerequisite- Corequisite**

Prerequisites: ART 125/COM 124 Introduction to Computer Graphics; ART 115 Beginning Drawing.

Credits: 3

### **Cross-listed**

COM 226

### **Hours**

2 Class Hours, 2 Studio Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the field of Graphic Design more fully.
2. Develop skills on the computer in professional design oriented programs.
3. Create a professional portfolio of work relevant to the field.
4. Discuss the field of Graphic Design and its future.

## **ART 227 - Editorial Design**

Students investigate the segment of the graphic arts industry that is responsible for the creation of news-papers, tabloids, and periodicals such as magazines and monthly trade journals. The art of page layout is explored as a powerful tool that editorial designers can use to influence how we interpret world and local events. This course will emphasize the idea that "people learn best by doing". Students will publish a periodical. The classroom setting will be transformed into a small-scale publishing business where students experience a variety of publishing roles such as: Art Direction, Advertising Design, Page Layout, Marketing, Advertising and Sales, and Editing. Students will experience and



understand the critical connection between Graphic Arts and Business. The publication will contain advertisements created for local businesses and text gathered from faculty members, students, and our community. Students will have the opportunity to develop professional relationships with local business clients.

**Prerequisite- Corequisite**

Prerequisites: ART 125: Introduction to Computer Graphics, and ART 226: Advanced Computer Imagery.

Credits: 3

**Hours**

2 Class Hours, 3 Studio Hours; Required course for students choosing the Graphic Arts emphasis, Elective for other students.

## **ART 228 - Animation I**

Animation I introduces the student to the beginning concepts of classical animation. The focus is the investigation of two-dimensional animation using the program of Macro-media Director MX. Topics covered are writing for animation and history of animation, in addition to basic animation concepts such as character development, storyboarding, audio/music timing and screening.

**Prerequisite- Corequisite**

Prerequisite: Art 105 Two-Dimensional Design; Art 107 Color Theory; Art 115 Beginning Drawing; Art 125 Intro to Graphics, Art 225 Illustration or ART 217 Advanced Drawing.

Credits: 3

**Cross-listed**

COM 228

**Hours**

2 Class Hours, 2 Studio Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Illustrate a working knowledge of quality visual storytelling.
2. Demonstrate a competent application of the animation principles in a time-based visualization.
3. Demonstrate a competent application of foundation drawing skills.
4. Apply animation computer software knowledge to other digital art forms.

## **ART 230 - Producing Public Murals**

Producing Public Murals introduces students to all aspects of mural design and production. The curriculum will help students develop several practical skills: drawing, painting, understanding logistics, planning strategies/processes, selecting materials, and problem-solving. Students will identify and evaluate prospective mural sites; study the composition and durability of various paints and sealants; investigate various methodologies for painting and/or installing murals; and, ultimately, participate in the creation of a public mural. In addition, students will explore the role of murals (and

other forms of public art) in the aesthetic, social, and economic revitalization of communities.

**Prerequisite- Corequisite**

Prerequisites: Art 115 Beginning Drawing and Art 116 Painting I, or permission of instructor.

Credits: 3

**Hours**

2 Class Hours, 3 Studio Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify and evaluate prospective mural sites.
2. Describe the composition and durability of various paints and sealants available for mural production.
3. Analyze composition, durability and other practical characteristics of various substrates available for mural production.
4. Apply various methodologies for painting murals on-site.
5. Apply various methodologies for painting murals on substrates in a studio.
6. Explain various methodologies for installing studio-prepared murals on-site.
7. Estimate mural production costs.
8. Articulate various ways in which murals (and other forms of public art) contribute to community revitalization: socially, aesthetically, and economically.
9. Creatively and constructively apply knowledge of color theory to mural painting.
10. Resize images to fit the scale of the mural site (substrate).
11. Explain relationships between traditional mural painting & various social, political, and theological ideologies.
12. Create a mural capable of eliciting heartfelt response and that has the potential to act as a catalyst for positive social change.

**ART 298 - Independent Study: Studio Art**

An individual student project concerned with advanced work in a specific area of art. Conducted under the direction of a faculty member, independent study is concerned with material beyond the scope and depth of the ordinary course.

**Prerequisite- Corequisite**

Prerequisite: 3 semester hours of college level work in Art.

Credits: (1-3)

**ART 299 - Independent Study: Art History**

An individual student project concerned with advanced work in a specific area of art. Conducted under the direction of a faculty member, independent study is concerned with material beyond the scope and depth of the ordinary course.

**Prerequisite- Corequisite**

Prerequisite: 3 semester hours of college level work in Art.

Credits: (1-3)

**ASA 110 - Introduction to Chemical Dependency Studies**

This course provides an introduction to the physical, psychological, social, familial and legal aspects of chemical abuse. The chemistry, physiology, psychopharmacology, theories and stages of addiction will be introduced and explored. Relevant history, problems of special populations of addicted clients and contributions of 12 Step Programs will be reviewed. Assessment, treatment planning, professional ethics, theory and skills building are integral to the course.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Incorporate general concepts regarding addiction.
2. Correlate diagnostic criteria for addiction (DSMIVR) into diagnosis, planning and intervention for clients (real or hypothetical).
3. Demonstrate comprehension of the physical effects of addiction, alcoholism, on major body systems.
4. Discern the ASAM (American Society of Addiction Medicine) criteria for appropriate client placement in the continuance of care for addicted clients.
5. Integrate all general concepts, e.g. learning objectives into appropriate planning of client care.
6. Demonstrate understanding of Harm Reduction through application of knowledge of Buprenorphine and Methadone Maintenance Programs.
7. Integrate basic concepts of ethical considerations relative to chemical dependency including the special needs of mentally ill chemical abusers (MICA).

**ASA 210 - Chemical Dependency Counseling I**

This course identifies the uniqueness of chemical dependency counseling by examining concepts, issues, and skills required to provide basic group therapy for chemically dependent persons. Group norms, goals, content, process, stages of group growth, group curative factors, group principles, and issues/problems of group dynamics and professional ethics are explored. Traditional theoretical models, such as Adlerian, Existential, Person-Centered, Behavioral, REBT, and various perspectives will be explored relative to chemical dependency group counseling.

**Prerequisite- Corequisite**

Prerequisite: ASA 110 Introduction to Chemical Dependency Studies, PSY 217 Introduction to Counseling Theory and Practice as either prerequisite or corequisite.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify several types of groups.
2. Demonstrate understanding of groups in a multicultural context.
3. Identify general guidelines for group work with multicultural populations.
4. Discuss critical issues related to ethical guidelines for group counselors.
5. Identify main characteristics/issues/problems for beginning group leaders.
6. Name special skills needed for opening and closing group sessions.
7. Discuss advantages and disadvantages of co-leading groups.
8. Begin to identify personal style of group leadership.
9. Demonstrate knowledge of the stages of group development.
10. Discuss theoretical approaches to groups.
11. Identify main patterns of group dynamics.
12. Be able to apply group leadership skills to working with chemically dependent populations.
13. Critically discuss the nature of group therapy as it relates to curative factors.

**ASA 220 - Chemical Dependency Counseling II**

This course builds on concepts from ASA 210. Ethical standards and practices will be discussed relative to chemical dependency counseling. Contemporary approaches to group counseling theories such as Reality/Choice Therapy, Rational Recovery Model, Motivational Interviewing, Short-Term Solution Focused Therapy, and Holistic Perspectives in Chemical Dependency Counseling will be explored in the context of ethical principles. Holistic issues will include alternative and complementary medicine and the mind-body-spirit connection relative to relapse prevention and overall health and wellness.

**Prerequisite- Corequisite**

Prerequisites: ASA 110 Introduction to Chemical Dependency Studies, ASA 210 Chemical Dependency Counseling I, PSY 217 Introduction to Counseling Theory and Practice.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Correlate knowledge of group counseling issues and skills with core concepts from ASA 210.
2. Demonstrate knowledge of several new types of group counseling techniques.
3. Incorporate critical issues related to ethical guidelines for group counselors.
4. Accurately self assess growth in application of group counseling skills.
5. Demonstrate understanding of client need by purposefully selecting the best clinical approach.



6. Display evidence of knowledge relative to the evolution of group process.
7. Demonstrate knowledge of types of holistic treatment as they relate to chemical dependency counseling.

## **ASA 230 - Family Issues in Chemical Dependency**

This course will introduce family theory including systems, structural, and experimental models. Critical issues involving family roles and dynamics specific to families with substance abuse issues will be emphasized. In addition, the ethical practice of assessment and intervention with families will be explored.

### **Prerequisite- Corequisite**

Prerequisite: ASA 110 Introduction to Chemical Dependency Studies.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discuss the major theories of addiction.
2. Identify the major family structures.
3. Describe the history of the American family.
4. Describe Family Systems Theory according to three major family theorists.
5. Define a genogram and begin to create a personal genogram.
6. Define co-dependency and identify the family roles according to two major family theorists.
7. Define family resiliency and identify major ways family structures are changing.
8. Define Linear and Circular Causality.
9. Define Cybernetics, Feedback Loops, and Homeostasis related to family dynamics.
10. Identify open and closed systems, as well as subsystems related to family structures.
11. Identify five theoretical perspectives of the origin and definition of co-dependency.
12. Differentiate between major theories of family development and structures.
13. List the elements of a good family evaluation and assessment.
14. Identify and discuss different assessment tools and techniques.
15. Identify and discuss four major intervention models.
16. Present personal genogram and identify individual family dynamics.
17. Describe the main steps in intervention with a family with addiction issues.
18. Create a treatment plan for a fictional family system.
19. Diagnose troubled family functioning.
20. Identify issues among diverse family structures and individualize assessment and treatment planning.
21. Identify issues such as counter-transference among addiction treatment professionals.

## **ASA 240 - Cultural Competencies in Chemical Dependency Studies**



This course is designed to provide an overview of topics of special interest and cultural diversity in the field of addiction counseling. The course will examine issues of diverse and select client groups in treatment and recovery, including individuals with lesbian, gay, bisexual, transgendered (LGBT), and the dually diagnosed.

**Prerequisite- Corequisite**

Prerequisites: ASA 110 Introduction to Chemical Dependency Studies, ASA 210 Chemical Dependency Counseling I, and ASA 220 Chemical Dependency Counseling II or permission of Instructor.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply the concept of critical analysis to current course work.
2. Demonstrate understanding of the role that each consumer's needs play in the clinical process.
3. Demonstrate understanding of the balance between diagnostic criteria and the individual needs of the consumer.
4. Develop insight into current treatment practices regarding the specialized treatment responses to the needs of various consumer groups.
5. Develop the capacity to define the individual needs of the consumer in theory and practice.
6. Develop the capacity to integrate ethical professional behavior which is responsive to the needs of various consumer groups.
7. Develop the capacity to maintain a positive relationship with managed care rooted in individual consumer needs.
8. Develop critical thinking skills with affirmative and negative positions regarding the role of managed care in chemical dependency treatment.
9. Develop critical thinking skills regarding the special needs of the following groups: women; physically challenged persons; LGBT clientele; narcotic dependent persons; criminal offenders; dually diagnosed; families; impaired professionals; and persons in chronic pain, and formulate affirmative and negative positions for specialized treatment responses to those needs.
10. Develop critical thinking regarding select current public policy issues and areas of concern in the arena of chemical dependency treatment.

**ASA 250 - Ethical Principles/Practices in Chemical Dependency Treatment**

This 5 week module will cover the content required for the Certified Alcohol and Substance Abuse Counselor (CASAC) credentialing process. The focus will be on the chemically dependent population and the ethical considerations related to the treatment environment. The student will gain knowledge of the Canon of Ethical Principles. In addition to the Canon, topics will include: counselors in recovery, counselor relapse, counter-transference, confidentiality and the law, sexual harassment, client-counselor relationships, and ethics in the workplace.

**Prerequisite- Corequisite**

Prerequisite: ASA 110 Introduction to Chemical Dependency Studies, ASA 210 Chemical Dependency Counseling I or permission of instructor.

Credits: 1

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate awareness of the importance of ethical professional practice to assure the health, safety, and recovery of addicted clients and families.
2. Demonstrate awareness of the importance of ethical standards for counselors in the profession to deliver the highest quality service to clients.
3. Demonstrate an understanding of the Canon of Ethical Principles.
4. Apply concepts of counseling and professional ethics to the field of addiction counseling.

## **ASA 255 - Chemical Dependency and the HIV/AIDS Population**

This 5 week module will cover content required for the Certified Alcohol and Substance Abuse Counselor (CASAC) credentialing process. The students will be exposed to the application of principles of chemical dependency theory and practice to the HIV/AIDS population. The unique needs of this client group require special consideration to adapt treatment. Focus will also include Hepatitis-C and federal law pertaining to HIV/AIDS information, ethics, and confidentiality issues.

**Prerequisite- Corequisite**

Prerequisite: ASA 110 Introduction to Chemical Dependency Studies, ASA 210 Chemical Dependency Counseling I or permission of instructor.

Credits: 1

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate comprehension, recognition, and understanding of the co-morbidity of addiction and HIV/AIDS.
2. Demonstrate an understanding of the risks of HIV/AIDS related to addiction.
3. Integrate the basic concepts of harm reduction and its role in chemical dependency treatment with regard to HIV/AIDS.
4. Apply principles related to the unique needs of clients who are HIV positive.

## **ASA 260 - Pharmacology and Chemical Dependency**

This 5 week module will cover content required for the Certified Alcohol and Substance Abuse Counselor (CASAC) credentialing process. It will provide an introduction to the basic pharmacology of psychoactive drugs, with special attention to drugs with addictive potential. The pharmacokinetic and pharmacodynamic basis of drug action will be introduced and explored. The basic structure of the Central Nervous System (CNS) will be reviewed along with neurotransmitter function and dysfunction.

The pharmacology of sedative-hypnotic drugs, stimulants, analgesics, and drugs used to treat psychological disorders will be explored in detail with regards to their pharmacokinetic, pharmacodynamic, and pharmacological attributes.

**Prerequisite- Corequisite**

Prerequisite: ASA 110 Introduction to Chemical Dependency Studies, ASA 210 Chemical Dependency I or permission of instructor.

Credits: 1

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of pharmacokinetic processes.
2. Apply the concepts of half-life, drug accumulation, efficacy, potency, and tolerance.
3. Describe basic neuroanatomy with special attention to the neuron, receptors, and the synaptic cleft.
4. Describe the major groups of neurotransmitters important in the action of psychoactive substances.

## **ASA 310 - Supervised Clinical Internship**

Two semesters of internship practicum, under supervision, in a chemical dependency related facility is required to provide exposure to the work of such facilities and sensitize students to prevention, clinical, and documentation skills of the profession. The student will enter the field work as an intern and will be subject to all legal, ethical, and professional standards required of staff members. Placement may include rehabilitation programs, detox units, prisons, hospitals, public school prevention programs/education programs, crisis centers, clinics or other recognized facilities designated for the education, prevention, or treatment of chemically dependent persons. A primary goal of the internship(s) is to evaluate the student under actual working conditions to ascertain readiness for clinical work in the field. Ethical principles and supervision are integrated into all areas of the experience.

**Prerequisite- Corequisite**

Prerequisites: ASA 110 Introduction to Chemical Dependency Studies, ASA 210 Chemical Dependency Counseling I.

Credits: 4

**Hours**

2 Class Hours, 8-10 Internship Hours

**Course Profile**

Learning Outcomes of the Course:



Upon successful completion of this course the student will be able to:

1. Demonstrate a beginning level of integrated knowledge of addiction.
2. Work on client assessments while being supervised.
3. Process issues from therapeutic client interactions with a mentor.
4. Begin to initiate documentation of client behaviors under direct supervision.
5. Demonstrate a beginning understanding of the third party payer and referral systems.
6. Demonstrate understanding of the chemical dependency treatment spectrum.
7. Correlate ethical principles through all clinical decisions and applications.

## **ASA 320 - Supervised Clinical Internship**

Two semesters of internship practicum, under supervision, in a chemical dependency related facility is required to provide exposure to the work of such facilities and sensitize students to prevention, clinical, and documentation skills of the profession. The student will enter the field work as an intern and will be subject to all legal, ethical, and professional standards required of staff members. Placement may include rehabilitation programs, detox units, prisons, hospitals, public school prevention programs/education programs, crisis centers, clinics or other recognized facilities designated for the education, prevention, or treatment of chemically dependent persons. A primary goal of the internship(s) is to evaluate the student under actual working conditions to ascertain readiness for clinical work in the field. Ethical principles and supervision are integrated into all areas of the experience.

### **Prerequisite- Corequisite**

Prerequisites: ASA 110 Introduction to Chemical Dependency Studies, ASA 210 Chemical Dependency Counseling I, ASA 310 Supervised Clinical Internship.

Credits: 4

### **Hours**

2 Class Hours, 16-20 Internship Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate a level of integrated knowledge of addiction.
2. Complete an accurate client assessment.
3. Write a comprehensive treatment plan for an addicted client, given adequate screenings, assessment, and diagnosis as related to DSM-IVR criteria.
4. Write organized documentation regarding a client's verbal and behavioral responses to components of the treatment process.
5. Utilize the Chemical Dependency referral system in planning appropriate care for addicted clients.
6. Develop skill in utilizing therapeutic techniques in client counseling.
7. Integrate knowledge of ethical principles into all areas of communication regarding clients.

## ASL 120 - American Sign Language I

Introduces the fundamentals of American Sign Language (ASL) including basic vocabulary, syntax, finger spelling, and grammatical non-manual signs. Focuses on communicative competence. The Direct Experience Method is used to help students learn to sign by experiencing the use of signs directly. Develops gestural skills as a foundation for ASL enhancement. Introduces Deaf Culture and increases understanding of the Deaf Community.

Credits: 3  
**Hours**  
3 Class Hours

## ASL 220 - American Sign Language II

Continues the study of the processes and basic structures of ASL to provide an in-depth understanding of the language and an ability to use the language more fluently. Sign grammatical principles are expanded and practiced. Understanding and appreciation for the Deaf Culture and Community is encouraged to enhance linguistic and cultural knowledge.

**Prerequisite- Corequisite**  
Prerequisite: ASL 120 American Sign Language I.

Credits: 3  
**Hours**  
3 Class Hours;

## ASL 230 - American Sign Language III

Additional and expanded topics for conversation are introduced with the associated vocabulary. Variations of signed messages by incorporating different sign principles and mime. More emphasis on conversational fluency in sign. The student will be able to generate increasingly more complex signing structures.

**Prerequisite- Corequisite**  
Prerequisite: ASL 220 American Sign Language II.

Credits: 3  
**Hours**  
3 Class Hours;

## BHM 110 - Sanitation and Safety



A course in the fundamentals of restaurant and hotel organization and sanitation. In this certification course the student will learn the control points in food service, the importance of sanitation, and safety procedures.

Credits: 3

**Hours**

3 Class Hours

## **BHM 125W - Hospitality Law**

A study of the legal principles governing hospitality operations including: common law, contracts, laws of tort and negligence, hotel-guest relationship, laws regarding food, food service and alcoholic beverages and employment laws.

**Prerequisite- Corequisite**

Prerequisite: BUS 118 Business Law I.

Credits: 3

**Hours**

3 Class Hours;

## **BHM 201 - Hotel/Restaurant Internship I**

Career-related employment in the hospitality industry focusing on an area of interest in a hotel or restaurant. The intern will experience the opportunity to apply the theory learned in the program within a hospitality business setting. First year course work must be completed.

**Prerequisite- Corequisite**

Prerequisite: 30 credit hours successfully completed toward Hotel/Restaurant Management degree.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate working competencies in any of the following areas, or other areas as agreed between the student and instructor.

Focus Areas--Hotel Internship:

Housekeeping Department

Personnel Department

Maintenance Department

Sales Department

Accounting Department

Food & Beverage Department

Front Desk Department  
General Mangement

**Focus Areas--Restaurant Internship:**

Sanitation of Facility  
Food & Beverage Preparation  
Food & Beverage Service  
Food & Beverage Management  
Accounting Department  
Personnel Department  
Sales Department  
Catering Department

## **BHM 216 - Quantity Food Production**

This course focuses on the theory and practice of cooking methods such as frying, roasting, broiling, griddle work, poaching and sauteing, with a basic understanding of use and care of kitchen equipment. Some items to be prepared by the student include: stocks, sauces, soups, vegetables, appetizers, sandwiches, salads, dairy products, meat, poultry, seafood, international dishes and basic bakery products.

**Prerequisite- Corequisite**

Prerequisite: BHM 110 Sanitation and Safety.

Credits: 3

**Hours**

1 Class Hour, 6 Lab Hours;

## **BHM 230 - Front Office Operations Management**

A study of the importance of guest service, communications with one front office and other departments, reservation systems, registration techniques, and safety and security. Accounting and night audit, reports and yield management will also be covered. A computerized front office simulation will be used in this class.

**Prerequisite- Corequisite**

Prerequisite: BUS 108 Accounting for a Service Business, BUS 112 QBM.

Credits: 4

**Hours**

4 Class Hours;

## **BHM 235 - Hotel and Restaurant Cost Control**

This course presents practical techniques for protecting hospitality establishments profits. Covering a broad area of controls over food, beverage and labor areas, this course builds a sound foundation of concepts and applications of management cost control procedures. Computer spread sheet applications software will be used in class.

**Prerequisite- Corequisite**

Prerequisites: BUS 108 Accounting for a Service Business, BUS 112 QBM.

Credits: 4

**Hours**

4 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify and understand the principles underlying management controls, including the operating budget, the menu, purchasing and receiving controls, storing and issuing controls, and production and serving controls.
2. Calculate food and beverage costs.
3. Identify procedures involved in taking and evaluating corrective action to strengthen controls.
4. Understand and identify the principles of sales forecasting, production control, and the prevention of sales income theft.
5. Identify and understand the factors involved in labor cost controls and how to implement labor controls.
6. Understand the concepts involved in successful menu pricing.
7. Understand front office computer applications.

## **BHM 270 - Hospitality Managerial Accounting**

This course provides students with a basis for planning and protecting a hospitality operation's financial success. Covers methods of financial analysis, forecasting, and budget and cost management.

**Prerequisite- Corequisite**

Prerequisite: BHM 235 Hotel and Restaurant Cost Control.

Credits: 3

**Hours**

3 Class Hours;

## **BHM 275 - Hospitality Catering and Community Service**

Students interested in either the hotel or restaurant business will find catering an integral part of their operational bottom line. They will also find community relations indispensable to overall business success. This course covers the basics of catering from planning to execution of actual events. Students will perform various job functions for all planned catering events while serving the community through fundraisers or charitable events.

**Prerequisite- Corequisite**

Prerequisites: BUS 108 Accounting for a Service Business, BHM 110 Sanitation and Safety, BHM 216 Quantity Food Production, BHM 235 Hotel and Restaurant Cost Control, and permission of the instructor. Active membership in the Hotel/Restaurant Club is strongly encouraged.

Credits: 3

**Hours**

3 Class Hours;

**BHM 297 - Hotel/Restaurant Internship II**

Career-related employment in the hospitality industry focusing on an area of interest in a hotel or restaurant. The intern will experience the opportunity to apply the theory learned in the program within a hospitality business setting. Senior status.

**Prerequisite- Corequisite**

Prerequisite: BHM 201 Hotel/Restaurant Internship I. Senior status required.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate working competencies in any of the following areas, or other areas as agreed between the student and instructor.

Focus Areas--Hotel Internship:

- Housekeeping Department
- Personnel Department
- Maintenance Department
- Sales Department
- Accounting Department
- Food & Beverage Department
- Front Desk Department
- General Management

Focus Areas--Restaurant Internship:

- Sanitation of Facility
- Food & Beverage Preparation
- Food & Beverage Service
- Food & Beverage Management
- Accounting Department
- Personnel Department

Sales Department  
Catering Department

### **BIM 110 - Systems and Procedures in Business Records Management**

Establishing and maintaining an effective records management program. Emphasis on policies, practices, and technologies.

Credits: 3

**Hours**

3 Class Hours

### **BIM 150 - Understanding Electronic Commerce**

An introduction to electronic commerce designed to create an understanding of the ways information technology and the Internet have transformed fundamental business precepts. Technical infrastructure, virtual communities, and security, legal, and regulatory issues will be addressed. Business-to-business and business-to-consumer strategies will be explored.

Credits: 3

**Hours**

3 Class Hours

### **BIM 200 - Business Records Management Technologies**

This course introduces students to the following functions of Records/Information Management: Forms Management, Disaster Prevention and Recovery, Micrographics, Optical Disk Technology and Reprographics.

Credits: 3

**Hours**

3 Class Hours

### **BIM 290 - Special Topics in BIM**

Topics in this course will acquaint students with current advances and techniques in records and information management technologies. Course topics may include: Geographic Information Systems, Imaging Data Base Systems, Smart Courtrooms.

**Prerequisite- Corequisite**

Prerequisite: Department Approval.



Credits: (1-3)

**Hours**

1-3 Class Hours;

## **BIM 299 - Independent Study**

Under the guidance of a faculty member, the student will undertake a study, project, or research involving an advanced concept or problem relating to his/her major field of study. Only one independent study course is allowed per semester.

**Prerequisite- Corequisite**

Prerequisite: Approval of faculty member and Department Chairperson.

Credits: (1-4)

**Hours**

1-4 Class Hours;

## **BIO 090 - Preparatory Biology**

A preparatory course for students with no previous biology or laboratory science experience and for students needing additional background. Especially for prospective health science students. Register with advisement only.

**Prerequisite- Corequisite**

Corequisite: Laboratory

Credits: 0

**Hours**

3 Lecture Hours, 3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the role of the scientific method and taxonomy in the study of biology.
2. Explain the structure of atoms and molecules and how they interact in chemical reactions in living organisms.
3. Describe the four groups of macromolecules including their general structure and function in biological systems.
4. Recognize the two basic types of cells including a detailed description of their structure and function.
5. Discuss how energy is obtained and utilized in both plant and animal cells.
6. Explain how eukaryotic cells reproduce to produce new cells.
7. Describe the structure of DNA and explain its role in protein synthesis.

## **BIO 101 - Introduction to Anatomy and Physiology**

An introduction to the basic understanding of the anatomy and physiology of human body systems, and anatomic terminology. This semester-long course reviews each of the major body systems. Students will also be introduced to the structures and processes of cells, and various tissue types present in the human body. This course may not be used to substitute for BIO 131/132 for health science students.

Credits: 3

**Hours**

3 Lecture Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have knowledge of basic anatomical terms and be able to use them correctly.
2. Correctly identify body cavities and name their contents, and correctly use regional and directional terms.
3. Have knowledge of basic chemical concepts and apply them to a better understanding of physiological phenomena.
4. Have knowledge of the basic principles of cell anatomy and physiology.
5. Have knowledge of the structure of the basic tissues and the integumentary system.
6. Describe the growth, development, anatomy and physiology of the skeletal system.
7. Explain the anatomical structure and physiological actions of the human muscular system.
8. Have knowledge of the basic facts concerning the anatomy and physiology of the nervous system.
9. Have knowledge and understanding of special senses, reflexes, and the autonomic nervous system.
10. Have knowledge of the anatomy and physiology of the endocrine system.
11. Have knowledge of the composition of human blood plasma and name the cells making up the formed elements of the blood.
12. Demonstrate an understanding of the electrical activity, pressure changes, and heart sounds that occur during a single, normal cardiac cycle.
13. Have knowledge of the anatomy of the human respiratory system and explain the activities involved in a single respiratory cycle.
14. Have knowledge of the anatomy and physiology of the human digestive system.
15. Have knowledge of the anatomy and physiology of the urinary system.
16. Have knowledge of the anatomy and physiology of the male and female reproductive systems.

## **BIO 111 - General Biology I**

Principles of evolution and ecology as unifying themes in biology. Evolutionary processes and ecological adaptations illustrated by plant and animal diversity. Cellular life processes. Current environmental problems. The laboratory includes physically demanding field trips. Accommodations can be made for students with disabilities.

Credits: 4

**Hours**

3 Lecture Hours, 3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Develop the critical thinking process.
2. Understand the methods, objectives, and limitations of the scientific process.
3. Develop an understanding that Biology is a relevant science and that its study is imperative in a person's becoming an enlightened citizen of the new millennium.
4. Understand the concept of evolution and see it as the continuing, unifying theme of life.
5. See the commonality yet diversity of life functions.
6. Appreciate our place in nature by being conversant with our evolution, physiology, and behavior.
7. Develop an ecological awareness and understanding of the inter-relatedness of life on earth.

## **BIO 112 - General Biology II**

Principles of evolution and ecology as unifying themes in biology. The human animal and its systems. Concepts of animal behavior. Classical genetics, current concepts of gene function and human genetics. Organismal growth and development. Current environmental problems. The laboratory includes physically demanding field trips. Accommodations can be made for students with disabilities.

Credits: 4

### **Hours**

3 Lecture Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Develop the critical thinking process.
2. Understand the methods, objectives and limitations of the scientific process.
3. Understand that biology is a relevant science and that its study is imperative in a person's becoming an enlightened citizen of the new millennium.
4. Appreciate our place in nature by being conversant with our evolution, physiology, and behavior.

## **BIO 115 - Ecology of the National Parks**

A biological survey of our National Park System concentrating on the variety of ways living organisms respond and adapt to meteorological, geological, and ecological pressure.

### **Prerequisite- Corequisite**

Corequisite: BIO 115 Laboratory

Credits: 4

### **Hours**

3 Lecture Hours; 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discuss the history of the National Parks System in the United States.
2. Discuss the ecological relationships involved in several of the major National Parks in the United States.

States.

3. Discuss the political, social, and ecological issues facing the National Parks.

## **BIO 117 - Principles of Biology I**

To give science majors a working foundation of biology and to prepare them for transfer to a four-year institution and upper level biology courses. The biological principles covered include, but not limited to, Ecology, Conservation Biology, and Evolution. The underlying themes of unity and diversity of living organisms will be used to amalgamate the topics covered. Scientific methodology will be emphasized in both laboratory and lecture using current publications to support discussion as well as developing and executing scientific experimentation.

### **Prerequisite- Corequisite**

Prerequisite: High School Regents Biology and Regents Chemistry.

Credits: 4

### **Hours**

3 Lecture Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the basic principles of ecosystems, ecology, conservation biology, processes of evolution and speciation.
2. Apply knowledge of evolution to explain the unity and diversity of life.
3. Demonstrate an understanding of the scientific method.
4. Demonstrate knowledge of the unifying themes of biology.
5. Apply the scientific method to plan and carry out laboratory exercises.
6. Demonstrate the ability to read, analyze, and understand scientific writing.

## **BIO 118 - Principles of Biology II**

A continuation of Principles of Biology I. To give science majors a working foundation of biology to prepare them for transfer to a four-year institution and upper level biology courses. The biological principles covered include, but not limited to: Cellular Structure and Function, Molecular Biology, and Genetics. The underlying themes of unity and diversity of living organisms will be used to amalgamate the topics covered. Scientific methodology will be emphasized in both laboratory and lecture using current publications to support discussion as well as developing and executing scientific experimentation.

### **Prerequisite- Corequisite**

Prerequisite: BIO 117 or equivalent.

Credits: 4

### **Hours**

3 Lecture Hours, 3 Laboratory Hours



## **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of basic cell morphology and function, molecular biology, Mendelian genetics and molecular genetics.
2. Apply the scientific method to plan and carry out laboratory exercises.
3. Apply knowledge of the scientific method in analysis of current scientific literature.
4. Utilize knowledge of Mendelian genetics and molecular genetics in problems of inheritance and the role of mutation in organisms.
5. Demonstrate the ability to read, compose, analyze, and critique scientific writing.

## **BIO 120 - Human Sexuality**

Explores information about sexual attitudes, relationships, sexual anatomy, contraception, sexually transmitted disease, sexual physiology and dysfunction. Course aims to make students feel more comfortable thinking and talking about sex and to prepare them to make rational decisions about this important aspect of their lives.

Credits: 3

### **Hours**

3 Lecture Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student should be able to:

1. Differentiate between the concepts of sex and sexuality and discuss their intimate relationship.
2. Explore the historical aspects of sexuality in order to better understand our modern perspectives.
3. Discuss the basic biological functions and dysfunctions of male and female sexuality.
4. Open communication channels in the area of sexuality to allow for meaningful free exchange of ideas pertaining to this most important area of human life.
5. See how subject matter could be applied to our everyday lives.

## **BIO 121 - Basic Nutrition**

This course presents a challenging science-based nutrition core curriculum that reviews the role of nutrition in health promotion/disease prevention, and provides an overview of the interrelationships between diet, therapeutic nutrition, and various acute/chronic medical conditions. With an emphasis on normal anatomy and physiology and the metabolism of nutrients, digestion, absorption, and utilization of food; normal and therapeutic nutrition and various foods, preferences, and customs, as well as dietary guidelines. Topics relating to dietary policies, procedures and regulations will also be covered. Other topics of student interest will be addressed as they arise.

Credits: 4

### **Hours**

4 Lecture Hours



## **BIO 131 - Human Biology I**

Normal structure (gross and microscopic) and function of the skeletal, muscular and nervous systems. Emphasis on physiology in lectures and on anatomy in laboratory, stressing those aspects which have greatest relevance to the student's curriculum.

Credits: 4

### **Hours**

3 Lecture Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the anatomical terms utilized in describing the human body, planes, and cavities as well as the structural organization of the body.
2. Describe the structure, function, and reproduction of cells.
3. Describe the structure and function of the various types of tissues, membranes, and glands in the human body.
4. Describe the structure and specialized functions of the skin and its derivatives, including its relation to homeostasis.
5. Discuss the structure and functions of the skeletal system, including its histology, the ossification process, and its role in maintaining calcium homeostasis.
6. Explain the structure and function of muscle tissue and be able to relate the neural, electrochemical, and physical events of muscle contractions to body movements.
7. Demonstrate an understanding of the major divisions of the nervous system, their component structures, and the various homeostatic mechanisms which operate under nervous control.
8. Demonstrate an understanding of the structure and physiology of the somatic senses as well as the special senses.

## **BIO 132 - Human Biology II**

A continuation of BIO 131 Human Biology I covering the circulatory, respiratory, digestive, urinary, reproductive and endocrine systems. Emphasis on physiology in lectures and on anatomy in laboratory, stressing those aspects which have greatest relevance to the student's curriculum.

### **Prerequisite- Corequisite**

Prerequisite: BIO 131 Human Biology I or permission of chairperson.

Credits: 4

### **Hours**

3 Lecture Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the structure and function of the circulatory and lymphatic systems.

2. Demonstrate an understanding of the structure and function of the respiratory system and the associated blood chemistry.
3. Demonstrate an understanding of the structure and function of the digestive system, including the uses of digested nutrients in the various metabolic pathways.
4. Demonstrate an understanding of the structure and function of the urinary system and its role in maintaining fluid-electrolyte balance.
5. Demonstrate an understanding of the structure and function of the endocrine and reproductive systems, including the effects of hormone levels on organs and tissue growth such as the menstrual and ovarian cycles.

## **BIO 140 - Pathophysiology**

Symptoms, syndrome and etiology of pathogenic processes affecting the function and structure of the body.

### **Prerequisite- Corequisite**

Prerequisite: BIO 132 Human Biology or permission of chairperson.

Credits: 3

### **Hours**

3 Lecture Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the general underlying principles common to many disease processes.
2. Describe the normal anatomy and physiology of various organ systems.
3. Discuss specific disease processes within the traditional organ systems.
4. Comprehend the medical terminology and procedures used in the diagnosis of specific diseases and conditions.

## **BIO 150 - General Microbiology**

An introduction to a basic understanding of the biology of microorganisms, with a focus on bacteria. Course topics include biochemistry, cell structure and function, metabolism, microbial ecology, microbial genetics, applied microbiology, microbial control, epidemiology, pathogenesis and microbial disease. Laboratory exercises reinforce those principles discussed in lecture.

Credits: 4

### **Hours**

3 Lecture Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the basic biology of microorganisms.
2. Utilize classical microbiological methods to assess and analyze microbes in the laboratory.
3. Demonstrate an understanding of the importance of microbes in the welfare of humans, including the role of microorganisms in the environment, in food, and in disease.
4. Prepare a presentation describing important pathogenic bacteria.

## **BIO 155 - DNA and Biotechnology**

This course covers the basics of DNA allowing the student to understand today's rapidly expanding field of biotechnology. Topics will include: the human genome project, genetic testing, gene therapy, DNA and crime, genetic engineering, agricultural and industrial applications of biotechnology.

### **Prerequisite- Corequisite**

Prerequisite: One semester of college biology or permission of instructor.

Credits: 3

### **Hours**

3 Lecture Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the processes and methods used to manipulate living organisms or the substances and products from these organisms for medical, agricultural, and industrial purposes.
2. Describe the implications of biotechnology in such areas as gene therapy, medicine, agriculture, marine biology, and forensics.

## **BIO 170-180 - Special Topics in Biology**

Special courses covering particular topics in the biological sciences beyond the scope of the normal course offerings.

### **Prerequisite- Corequisite**

Prerequisite: Permission of Department Chairperson and one semester of college biology.

Credits: (1-3)

### **Hours**

1-3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

1. Dependent on the area of study.

## **BIO 200 - Ecology: The Everglades**

A scientific yet sensitive look at one of the world's rare and endangered wilderness areas. Everglades ecology is studied through an extensive wilderness camping experience in Everglades National Park, involving a minimum of 90 hours of classroom and field instruction. Offered during the January Intersession.

### **Prerequisite- Corequisite**

Prerequisite: One semester of college biology and permission of department chairperson.

Corequisite: Laboratory and intersession field trip.

Credits: 4

### **Hours**

3 Lecture Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student should be able to:

1. Have knowledge of general ecological principles.
2. Have knowledge of the use of scientific methodology in the study of ecology.
3. Have knowledge of the uniqueness of the everglades as an ecosystem.
4. Have knowledge of the importance of wilderness areas as a vital component of the world community.
5. Have knowledge of the influence and impact of the human population on these areas.
6. Have knowledge of one's self.

## **BIO 202 - Biology Seminar**

The course is designed specifically for students interested in pursuing careers in the biological sciences. Students will be asked to critically analyze both current and historical readings, experiments and controversial topics within the field. An emphasis will be placed on showing the special niche of the biological sciences within the context of both the physical and social sciences. A weekend field trip is required.

### **Prerequisite- Corequisite**

Prerequisites: BIO 117 Principles of Biology I and permission of Department Chairperson.

Credits: 1

### **Hours**

1 Lecture Hour

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Critically analyze both current and historical readings, experiments, and controversial topics within the field.



## BIO 211 - Self-organizing Systems

Introduction to the fundamental principles involved in the self-organization of living systems, extending from molecules, to cells, tissues, organisms and social systems. Focus on developing an understanding of emergent properties, based on computational investigations of processes such as diffusion, protein folding and clustering. Analytical procedures for characterizing self-organizing systems. Needed by Engineering Science students transferring to BU in Bioengineering.

### **Prerequisite- Corequisite**

Prerequisites: MAT 181 Calculus and BIO 111 General Biology I or consent of instructor.

Credits: 4

### **Hours**

4 Lecture Hours;

## BIO 216 - Immunology

An introduction to the basic concepts in immunology, including development of the immune system, innate immunity, immunoglobulin structure and genetics, antigen-antibody reactions, the major histocompatibility complex and antigen presentation, T cell receptors, T cell activation and effector functions, energy and apoptosis, adhesion molecules, phagocytic cell function, immune responses to infections organisms and tumors, autoimmune diseases, allergies, immune deficiencies and AIDS.

### **Prerequisite- Corequisite**

Prerequisites: BIO 131 Human Biology I and BIO 132 Human Biology II.

Credits: 3

### **Cross-listed**

MLT 216 and CLT 216

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. List the elements of the immune system and describe their roles in defense.
2. Describe the structure of immunoglobulins and discuss the mechanism for generation of antibody diversity.
3. Discuss the nature of antigens and the characteristics that contribute to immunogenicity.
4. Describe in detail, the normal and abnormal functions of the human immune response, including antigen recognition by T lymphocytes, development of T and B cells, T cell-mediated immunity, immunity mediated by B cells and antibodies, innate immunity, and the complement system.
5. Explain the mechanisms and pathogenesis of disorders of the immune system, including immunodeficiencies, hypersensitivities, autoimmune disorders, and immunoproliferative abnormalities.
6. Describe clinical implications of the immune response such as immunization, transplant rejection, tumor immunity, and the immunity of pregnancy.
7. Evaluate clinical cases to apply information to assess diagnoses, symptoms, etiology, prognosis, possible treatments, and other case-related information.



8. Describe the lab tests performed used to assess immune function and status, and propose and evaluate clinical significance of appropriate laboratory testing results.

## **BIO 218 - Ornithology**

An in-depth study of the world of birds indigenous to the Northeast as well as a look at how humans have affected the survival of many avian populations. The course will cover the anatomy and physiology of birds; their habitats and behavior, including field identification of birds by sight and sounds.

### **Prerequisite- Corequisite**

Prerequisite: BIO 112 or BIO 200

Credits: 2

### **Hours**

1 Lecture Hour, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe evolutionary adaptations of the class Aves.
2. Describe the interrelationships between birds and their environment.
3. Conduct visual and auditory field identifications.
4. Analyze human impact on bird populations.

## **BIO 299 - Independent Study**

An individual student project in a biological field which is beyond the scope of requirements of the courses offered by the department. Conducted under the direction of a Biology faculty member. Only one independent study course allowed per semester.

### **Prerequisite- Corequisite**

Prerequisites: 4 credits of college level work in biology and approval of Department Chairperson.

Credits: (1-3)

### **Course Profile**

Learning Outcomes of the Course:

1. Dependent on the area of study.

## **BIT 100 - Keyboarding**

Development of basic keyboarding techniques and skill building activities in order to attain speed and accuracy in keying exact copy by touch for 5 minutes with a maximum of 5 errors.

**Prerequisite- Corequisite**

Prerequisite: For international students, ENG 107-English as a Second Language or permission of instructor.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Operate the computer keyboard and other machine parts by touch.
2. Assume proper position at the computer for ease of operation and to minimize fatigue.
3. Demonstrate developed skill, accuracy, and confidence in using the computer keyboard and software.
4. Demonstrate developed rhythmic, even stroking.
5. Have completed and submitted all lessons, Cortez Peters assignments, and supplementary drills in order to achieve maximum success.
6. Have submitted TWO acceptable timings at a minimum speed of 21 gross words per minute with 3 or fewer errors for 3 minutes.
7. Have submitted TWO acceptable timings at a minimum speed of 31 net words per minute with 5 or fewer errors for 5 minutes.
8. Apply proofreading techniques. Any timed writing copy containing proofreading errors will not be considered for credit.

**BIT 101 - Computer Keyboarding**

Development of basic skills in keying exact copy by touch for three minutes with a maximum of three errors on a personal computer.

**Prerequisite- Corequisite**

Prerequisite: International Students - English as a Second Language or permission of the instructor.

Credits: 1

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Operate the computer keyboard and other machine parts by touch.
2. Assume proper position at the machine for ease of operation and to minimize fatigue.
3. Have developed skill, accuracy, and confidence in using the keyboard.
4. Have developed rhythmic, even stroking.
5. Submit an acceptable timing at a minimum speed of 20 gross words per minute with 3 or less errors for 3 minutes to receive an S grade.
6. Apply proofreading techniques. Any timed writing paper containing proofreading mistakes will not be considered for credit.

## **BIT 104 - Keyboarding Speed Development**

Individualized goal setting for reaching speed and accuracy standard necessary for entry-level employment.

### **Prerequisite- Corequisite**

Prerequisite: BIT 100 Keyboarding or equivalent.

Credits: 1

### **Hours**

1 Class Hour

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Assume the proper position at the keyboard.
2. Key by touch.
3. Key with rhythmic, even stroking.
4. Complete error analysis forms that prescribe drill repairs.
5. Show improvement in timed writing speed and accuracy levels.

## **BIT 108 - Introduction to the PC and Windows**

Use of Windows and its graphical user interface to communicate with personal computers. Apply Windows features, concepts, applications, and procedures.

### **Prerequisite- Corequisite**

Prerequisite: Keyboarding speed of 20 wpm recommended.

Credits: 1

### **Hours**

1 Class Hour;

## **BIT 110 - Business English**

A comprehensive and functional review of language fundamentals. Students learn to speak and write clearly and correctly by developing proficiency in English language basics. Topics include parts of speech, sentence and paragraph structure, spelling, grammar usage, and punctuation. Internet-based grammar and writing resources will be introduced and integrated.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply English grammar rules and identify and use the eight parts of speech in sentence structure.
2. Apply basic sentence construction -- including simple, compound, and compound-complex sentences.
3. Apply the basic punctuation rules.
4. Apply the basic capitalization rules.
5. Apply the basic number rules.
6. Be proficient in the use of the Gregg Reference Manual and should be able to apply the appropriate rules to the exercises in the Gregg Reference Manual worksheets.

### **BIT 111 - Information Literacy**

A survey of methods to trace and locate sources of information, both in printed material and electronic sources, and determine their authenticity, validity, and reliability. After evaluation of source quality, students will report and integrate information considering the ethical and legal aspects of source use.

Credits: 1

#### **Hours**

1 Class Hour

#### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Access information competently using a variety of databases and searches.
2. Refine this process for searching for articles and sources for a bibliography.
3. Evaluate the validity and reliability of the source.
4. Sort diverse format items into appropriate categories.
5. Merge the information environments into a complete listing.

### **BIT 114 - Grammar Update**

To review basic sentence structure, grammar, business vocabulary and punctuation as related to the business world.

Credits: 1

#### **Hours**

1 Class Hour

#### **Note**

Does not correlate with any one 5-week segment of BIT 110.

### **BIT 120 - Document Formatting**

Introduction to general, medical, and legal vocabulary and the techniques of keyboarding documents for general, medical, and legal offices.

**Prerequisite- Corequisite**

Prerequisite: BIT 100 or the equivalent.

Credits: 3

**Hours**

3 Class Hours;

## **BIT 129 - Office Suite Mastery**

Preparation for the Microsoft Specialist proficiency test to become a certified specialist in an area of the office suite.

Credits: 2

## **BIT 130 - Word Processing Applications**

Continuation of speed and accuracy development. Word processing functions using professional word processing software.

**Prerequisite- Corequisite**

Prerequisite: BIT 100 Keyboarding or ability to key exact copy at 36 net words per minute by touch for 5 minutes with a maximum of 5 errors.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Operate the computer keyboard by touch and assume proper posture at the terminal for ease of operation and to minimize fatigue.
2. Demonstrate skill, accuracy, and confidence in operating computer equipment.
3. Demonstrate the use of Word to create, edit, format, and print documents.
4. Use selected functions of Word to produce mailable business communications such as letters, tables, and reports.

## **BIT 140W - Business Communication**



Practical application of language usage skills with emphasis on correct approach to and effective strategies for writing and editing business media. Focus topics include effective and proper use of business media (e-mail and internet correspondence, memoranda, letters, outlines, short reports, and other relevant business documents), effective use of reference materials (Gregg Reference Manual and internet-based reference resources), expansion of spelling and vocabulary repertoire, use of critical thinking and problem solving skills in the writing and editing of assigned business cases, and principles of document formatting/design.

**Prerequisite- Corequisite**

Prerequisite for BIT majors: BIT 100 Keyboarding.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate correct usage in the mechanics of the English language (punctuation, numbers, spelling, plurals, possessives, hyphenations, abbreviations, and proper wording) both in written and oral communications according to the rules given in the Gregg Reference Manual.
2. Master the writing of communications dealing with inter- and intra-office and outgoing correspondence.
3. Submit all written communications projects in appropriate word-processed format.
4. Demonstrate effective written performance on all classwork, homework, and/or project assignments, at least eight of which (selected at random) will be graded during the semester.
5. Develop oral communication skills in order to communicate effectively within his/her professional environment.
6. Demonstrate effective communications abilities on all assigned oral communications projects.

## **BIT 160 - Intro to Computerized Financial Information Processing**

Students will learn to utilize a PC and selected software to process personal financial information in order to prepare a budget, checks and a check register, bank reconciliation statement, determine the savings of purchasing with cash, and compute and prepare simple tax forms.

**Prerequisite- Corequisite**

Prerequisite: BIT 101 or the equivalent.

Credits: 1

**Hours**

1 Class Hour;

## **BIT 169 - Mastering the Internet and the WWW**

This course is ideal for students in a broad range of disciplines who wish to become acquainted with the Internet and the world wide web. Develop the knowledge and skills necessary to send and receive

e-mail messages, access the internet, use a graphical browser, transfer and manage files, experience various resource discovery and information retrieval tools, and compile reports that includes images and text. Complete your reports with references cited using the latest information from the online MLA or APA style manuals. Explore the technical requirements for a home system and the impact the Internet has made on society. Get ready to become part of the Internet community by designing and creating a personal web page.

**Prerequisite- Corequisite**

Prerequisite: BIT 101 Computer Keyboarding or the equivalent.

Credits: 3

**Hours**

3 Class Hours;

## **BIT 170 - Introduction to the Internet**

Travel the information superhighway with skills taught in this course. You will learn to send and receive E-mail messages, access the Internet, search for and retrieve information, and use a graphical browser.

**Prerequisite- Corequisite**

Prerequisite: BIT 101 Computer Keyboarding or the equivalent.

Credits: 1

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply the primary uses and structure of the Internet.
2. Analyze common Internet-related legal, ethical, and etiquette issues.
3. Competently utilize Internet-related terminology.
4. Competently utilize several Internet tools.

## **BIT 171 - Internet-Based Research**

Exploration of additional Internet resources. Hands-on experience with various resource discovery and information retrieval tools.

**Prerequisite- Corequisite**

Prerequisite: BIT 170 Introduction to the Internet or the equivalent.

Credits: 1

**Hours**

1 Class Hour

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Refine queries to locate information.
2. Evaluate and identify valid sources of information on the World Wide Web.
3. Apply a variety of search tools and create research strategy, and analyze search results.
4. Evaluate web pages for validity, reliability, authenticity.
5. Have searched and navigated subject guides to compile information.
6. Have conducted two research projects involving retrieval, analysis, and application of information to a current business problem.

### **BIT 172 - Creating Personal Web Pages**

Learn the basics of designing and creating your own web page using the composer feature of a popular web browser. Enhance your web page by incorporating images you create with the use of a digital camera and scanner.

#### **Prerequisite- Corequisite**

Prerequisite: BIT 170 Introduction to the Internet or equivalent.

Credits: 1

#### **Hours**

1 Class Hour;

### **BIT 173 - Basics of Website Creation**

Potential web authors should start here! Develop the foundation for website creation including HTML, web graphics, and basic web editors. Understand the tools needed to incorporate animation, image maps, slide shows, and more into your web documents. Apply what you have learned to the creation of a website as a final project.

#### **Prerequisite- Corequisite**

Prerequisite: BIT 170 Introduction to the Internet or the equivalent.

Credits: 3

#### **Hours**

3 Class Hours

#### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Use several HTML and HTML editors.
2. Create and design the framework and content for a website.
3. Use sound writing principles to prepare a copy for a website.
4. Utilize the elements of good design to develop a website based upon an approved topic.
5. Edit images using a graphics program.

6. Use at least one web-authoring package.
7. Create a website containing at least 3 web pages using a combination of HyperText Markup Language and web authoring software.
8. Demonstrate how to incorporate color, texture, and graphics into web pages.
9. Demonstrate how to incorporate animation, image maps, and slide shows into your web pages.
10. Link a website to at least 2 external related web pages.
11. View the website using Netscape and Internet Explorer.
12. Post the website to a web server and demonstrate the features of the site to the class.

## **BIT 180 - Computers and Communications**

An introduction to the computer skills and knowledge vital for individuals pursuing a career requiring the use of computers for communications. A variety of software will be used. Students will be exposed to the PC and windows environment, the Internet, computer graphics and web page design and creation. Scanning and digitizing photographs will be introduced.

Credits: 3

### **Hours**

3 Class Hours

## **BIT 182 - Designing Effective Web Pages**

Experienced web designers will enhance their ability to create attractive, useful web sites by exploring the elements of good design. Issues such as audience identification, clarification of need, development of content, efficiency in use of files based on type and size, and an introduction to human factors in improving design will be explored. A popular commercial web authoring package will be used to create an attractive and effective web site as a final project.

### **Prerequisite- Corequisite**

Prerequisite: BIT 173 Basics of Website Creation, or BIT 176 Using Web Editors, or the equivalent.

Credits: 3

### **Hours**

3 Class Hours;

## **BIT 185 - Raster-Based Software Tools for Web/Print Publishers**

An introduction to Photoshop, the industry standard software program for creating and modifying raster/ bitmap graphics. Students will learn to create, scan and edit images and text for print, multimedia, and web design. An emphasis will be placed on image manipulation, photo restoration, digital illustration, the use of slices and rollovers, and even how to create simple animations. Students will also become introduced to tools for creating vector graphics and type.

Credits: 3



**Hours**

3 Class Hours

**BIT 186 - Interactive Websites**

Keep visitors returning to your website by adding interactivity to your pages. Understand if, when, and how to incorporate JavaScripts, Java Applets, CGI, and Dynamic HTML. Designing for full accessibility and validating web pages will be stressed. Create an interactive website as a final project.

**Prerequisite- Corequisite**

Prerequisite: BIT 173 Basics of Website Creation.

Credits: 3

**Hours**

3 Class Hours;

**BIT 190 - Animation for the Electronic Media**

This course will introduce the student to the core principles of animation and how to use these principles to create animations for electronic presentations and web pages. Topics such as basic drawing, single frame and flip book animation styles, story boarding and composition will all be covered. Using Macromedia Flash and Microsoft PowerPoint students will learn how to add animations to their presentations and websites by creating animations with sound, buttons, and action.

Credits: 3

**Hours**

3 Class Hours

**BIT 197W - Cooperative Work Experience**

Cooperative work experience is provided for individuals pursuing a certificate program through the Business Information Technology department. On-the-job experience will be related to specific educational background and career goals of the student. Opportunities will be available in a variety of areas. Cooperative Work Experience students will meet with the coordinator on a regular basis. Meetings will address resum

**Prerequisite- Corequisite**

Prerequisite: 12 earned credits in the department.

Credits: (1-3)

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:



Upon successful completion of this course the student will be able to:

1. Apply skills and knowledge learned in the Business Technologies program (software, telephone, human relations skills, etc.) to on-the-job experience.
2. Prepare a resume in proper format, with emphasis on 100 percent accuracy.
3. Prepare daily journals, while on the job, of activities performed--skills and human relations. Journals will be checked by internship coordinator at midpoint and at the end of the internship.
4. Submit weekly report of on-the-job experiences to internship coordinator.
5. Complete all time reports.
6. Submit a final paper as defined in internship letter.
7. Compose cover letters and thank-you letters to site supervisors.

## **BIT 200 - Spreadsheets with Business Applications**

Creation of spreadsheets, use of database functions and preparation of charts, using functions and features appropriate for business documents.

### **Prerequisite- Corequisite**

Prerequisite: BIT 101 Computer Keyboarding or the equivalent.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify basic spreadsheet terms, techniques and features.
2. Use the spreadsheet in solving business-related problems.
3. Import and export files to create office documents.
4. Create lists and filters using the database function.
5. Use the special functions of Excel appropriate for office work.
6. Create and print different types of charts common to business communications.

## **BIT 201 - Introduction to Spreadsheets**

Use of basic spreadsheet functions for business-related applications.

### **Prerequisite- Corequisite**

Prerequisite: BIT 101 Computer Keyboarding or the equivalent.

Credits: 1

### **Hours**

1 Class Hour;

## **BIT 202 - Intermediate Spreadsheets**

Use of spreadsheet and chart functions for business-related applications.

### **Prerequisite- Corequisite**

Prerequisite: BIT 201 Introduction to Spreadsheets.

Credits: 1

### **Hours**

1 Class Hour;

## **BIT 203 - Advanced Spreadsheets**

Use of advanced features to enhance business-related applications for database, spreadsheets, and charting functions.

### **Prerequisite- Corequisite**

Prerequisite: BIT 202 Intermediate Spreadsheets.

Credits: 1

### **Hours**

1 Class Hour;

## **BIT 210 - Machine Transcription**

Emphasis on increasing skill in proofreading and editing a variety of documents and transcribing recorded materials. Continuing development of knowledge of business vocabulary, grammar usage, punctuation, and spelling.

### **Prerequisite- Corequisite**

Prerequisites: BIT 110 Basic Transcription and BIT 130.

Credits: 3

### **Hours**

3 Class Hours;

## **BIT 240 - Desktop Publishing Using PageMaker**

Become familiar with graphic design techniques, principles of page layout and design, and desktop publishing terminology and applications. Create a variety of documents such as flyers, brochures, and newsletters and business cards. Become familiar with style sheets, templates, and importing material created in other software programs.

### **Prerequisite- Corequisite**

Prerequisite: BIT 101 Keyboarding or the equivalent.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply graphic design techniques, principles of layout and design, and desktop terminology and applications.
2. Use a professional desktop publishing package to design, create, and print a variety of documents such as flyers, brochures, and newsletters.
3. Combine text and graphics in the creation of the publications.
4. Use templates, indents, and tabs.
5. Prepare output on both hard copy and disks to be sent to a service bureau.
6. Create documents that contain both embedded and linked objects.

## **BIT 245 - Electronic Page Layout using QuarkXpress**

Use this powerful page layout program to set type and incorporate text and graphics in single and multiple-page documents in a Windows environment.

**Prerequisite- Corequisite**

Prerequisite: BIT 101 or the equivalent.

Credits: 3

**Hours**

3 Class Hours;

## **BIT 250 - Integrated Microsoft Office**

Integrated Microsoft Office will acquaint students with operating systems, word processing, database management, spreadsheet applications, and presentation graphics. Students will prepare business documents by embedding and linking files.

**Prerequisite- Corequisite**

Prerequisite: BIT 101 Keyboarding or the equivalent.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate the use of word processing functions with Microsoft Word.
2. Prepare database applications using Microsoft Access.
3. Apply a basic understanding of spreadsheets using Microsoft Excel.
4. Create presentation graphics using Microsoft PowerPoint.
5. Develop basic business documents using the above software applications.
6. Demonstrate the ability to integrate files prepared using the above software applications.

## **BIT 251 - Introduction to Microsoft Word**

Learn to use this popular word processing package to prepare simple letters, memos, and reports. Upon successful completion of this course, you will be able to create, store, and print routine business and/or personal documents efficiently.

### **Prerequisite- Corequisite**

Prerequisite: BIT 101 Computer Keyboarding or the equivalent.

Credits: 1

### **Hours**

1 Class Hour

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply word processing functions to business documents.
2. Use the word processing software to create business and personal documents including letters, memos, tables, and reports.
3. Create, edit, save, retrieve, and print documents created in Microsoft Word.

## **BIT 252 - Introduction to Microsoft Excel**

Use this popular software to prepare worksheets and charts. Learn to create and use multiple worksheets, link workbooks, create lists and macros, and use templates.

### **Prerequisite- Corequisite**

Prerequisite: BIT 101 or the equivalent.

Credits: 1

### **Hours**

1 Class Hour;

## **BIT 253 - Introduction to Microsoft Access**

Use this popular database software to prepare tables and reports. Create and use queries to sort and select records.

**Prerequisite- Corequisite**

Prerequisite: BIT 101 or the equivalent.

Credits: 1

**Hours**

1 Class Hour:

**BIT 254 - Introduction to PowerPoint**

Learn to create simple text charts, data charts, speaker notes, handouts, and a screen show using a sophisticated graphics software package.

**Prerequisite- Corequisite**

Prerequisite: BIT 101 Computer Keyboarding or the equivalent.

Credits: 1

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Create, edit, show and print slides using a professional presentation package.
2. Create title and bulleted list slides as well as slides using charts to present information.
3. Incorporate clip art into slides.
4. Add sound and transitional elements to a slide show.
5. Add a build effect to a bulleted-list slide.
6. Develop an outline for a 10-12 minute slide show presenting information on a topic of their choice.
7. Select and create appropriate slides to present information.
8. Apply simple design elements to make more attractive and effective slides.
9. Present the information to an audience using the slide show to enhance the presentation making it more interesting and effective.

**BIT 255 - Integrated Business Office Applications**

Advanced office functions including integrating word processing, database, spreadsheets and presentation graphics. Preparation of business documents.

**Prerequisite- Corequisite**

Prerequisite: BIT 130 Word Processing Applications.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:



Upon successful completion of this course the student will be able to:

1. Apply the advanced features of word processing.
2. Use the features of the presentation graphics program to create a series of slides.
3. Present the slideshow using presentation graphics software to others.
4. Demonstrate the ability to integrate files prepared in the above applications.

## **BIT 260 - Introduction to Database Management**

Concepts and functions of database management for practical business applications.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Create and maintain database tables using business applications.
2. Perform queries and filter records.
3. Build and modify forms.
4. Create and modify reports.
5. Integrate database documents with other software.
6. Apply the above mentioned database functions to solve business requests and situations.

## **BIT 265W - Project Management**

This course is designed to prepare students in planning, organizing, and executing the steps in project development. Students will develop teamwork and time-management skills to carry a project through its life cycle.

Credits: 3

### **Hours**

3 Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define project management.
2. Detail the phases and processes of initiating a project.
3. Apply successful team building skills.
4. Proceed through the steps involved in the planning stage.
5. Follow steps in project control.
6. Monitor a project.
7. Work with the support systems of project management.
8. Work successfully in a team environment, using all the necessary tools to complete a project.
9. Submit weekly updates to instructor on assigned projects.

## **BIT 270W - Personal and Professional Development**

A course designed to complement the hard/technical skills information technology students possess. Focus on soft skills; topics include: defining personal direction, discovering personal and professional strengths, setting and achieving goals, handling stress and anger, understanding self-esteem, handling criticism, becoming a positive thinker, and taking appropriate control of personal and professional situations, disciplining thinking, learning to think critically, understanding the power of motivation, overcoming the fear of failure, defining and visualizing success, managing resources (time and money), and communicating assertively with all individuals.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify and set personal professional goals.
2. Demonstrate knowledge of effective time management techniques.
3. Demonstrate knowledge of communication styles and assertiveness techniques.
4. Project a positive self-image.
5. Develop an understanding of the role self-esteem plays in personal and professional success.
6. Demonstrate knowledge of effective non-verbal communication.
7. Work at the maintenance of good relationships at work through application of techniques presented.
8. Develop an understanding of cultural diversity and ethics and their impact on the workplace.
9. Recognize the part that a good attitude plays in preparing for, obtaining, maintaining, and advancing in your chosen career field.
10. Apply the rules of Business Etiquette and Protocol to workplace situations.
11. Discover ways to project a professional image through their dress and work space.
12. Plan and organize meetings that work.
13. Plan and participate in a business dinner.
14. Place an emphasis on customer service.

## **BIT 275 - Advanced Business Communication**

An integrated, interactive course that enables students to further develop written communication skills and to develop professional presentation skills. Students will have the opportunity to develop and demonstrate effective written, verbal, nonverbal, and presentation skills through the development of a variety of business communication media. Topics include developing business-oriented presentations in areas including employment communication (individual, team interviews, portfolio presentation), crisis communication, persuasive communication, informational communication. (Students will further refine their skills in using reference material by researching information for each presentation. In addition, they will integrate electronic technology by using PowerPoint software for each formal presentation they make. Presentations will be videotaped and evaluated by peers and instructor.

**Prerequisite- Corequisite**

Prerequisite: BIT 110, BIT 140W, or departmental approval.

Credits: 3

**Hours**

3 Credit Hours;

## **BIT 280W - Office Administration**

This course is designed to help students understand the modern administrative practices of office management. Emphasis is placed on planning and organizing office operations, leadership and human relations in the office; familiarization with the budget process, and controlling office operations, including office systems, work measurement, and standards; managing travel arrangements. Decision-making skills are developed through problem analysis techniques.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply basic concepts in administrative office management, including understanding traditional office management practices; basic management principles/leadership, motivation, and problem-solving skills; managing office systems and environmental/health-related issues.
2. Discuss the concepts of managing a diverse workforce, including recruiting, supervising, training, appraising and promoting personnel; analyzing office jobs, salaries, benefits, workplace issues, ethics and business etiquette.
3. Identify the role of various administrative services, including managing office space, ergonomics, office automation, and telecommunications.
4. Describe the function of administrative office systems, office productivity, and budgeting.

## **BIT 285 - Vector-Based Software Tools**

Take an in-depth look at one of today's most popular software programs for computer illustration and its use in print and digital media. Students will be introduced to the tools available in Adobe Illustrator, how to work with objects, clipart web-graphics (bitmaps) color and more. Students will work with basic shapes including editing and painting and will learn to draw with precision using the pen tool as well as use the brush types to enhance their work. The art of blending, layering and air brushing will be taught. Students will also learn how use Photoshop and Illustrator to enhance projects.

**Prerequisite- Corequisite**

Prerequisite: BIT 185 Raster-Based Software Tools for Web/Print Publishers

Credits: 3

**Hours**

3 Class Hours;

## **BIT 290 - Special Topics in Business Technologies**

Topics in this course will acquaint the students with current advances and techniques in business, communications, and information technologies. Course topics may include Intranet, creation of multimedia documents, qualitative research methodology, and digital audio transcription technology.

### **Prerequisite- Corequisite**

Prerequisite: Departmental approval.

Credits: (1-3)

### **Hours**

1-3 Class Hours;

## **BIT 297W - Internship**

Career-related experience that complements academic preparation in the business technologies area. Interns receive on-the-job experience in a business setting and meet with the internship coordinator as scheduled. Meetings will address resumes, cover letters, interview techniques, appropriate dress and professionalism.

### **Prerequisite- Corequisite**

Prerequisite: Departmental approval.

Credits: (1-3)

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply skills and knowledge learned in the Business Technologies program (software, telephone, human relations skills, etc.) to on-the-job experience.
2. Prepare a resume in proper format, with emphasis on 100 percent accuracy.
3. Prepare daily journals, while on the job, of activities performed--skills and human relations. Journals will be checked by internship coordinator at midpoint and at the end of the internship.
4. Submit weekly report of on-the-job experiences to internship coordinator.
5. Complete all time reports.
6. Submit a final paper as defined in internship letter.
7. Compose cover letters and thank-you letters to site supervisors.

## **BIT 299 - Independent Study**

Under the guidance of a faculty member, the student will undertake a study, project, or research involving an advanced concept or problem relating to her/his major field of study. Only one independent study course is allowed each semester.



**Prerequisite- Corequisite**

Prerequisite: Approval of faculty member and Department Chairperson.

Credits: (1-4)

**Hours**

1-4 Class Hours;

**BNK 168 - Principles of Banking**

A core course that examines all aspects of banking. A comprehensive introduction to today's diversified bank services. Bank accounting, pricing, profitability, personnel and security functions.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Be familiar with and demonstrate a competency in the following by use of classroom interaction and verbal responses, written exams, homework reviews and student projects:

- a. Banking--history and evolution
- b. The documents and language of banking
- c. Bank relationships with depositors
- d. The deposit function
- e. Check processing and collection
- f. Bank bookkeeping
- g. Bank loans and investments
- h. Trust department services
- i. Specialized services--to importers, exporters, individuals, and other banks
- j. Bank regulation and examination

**BNK 184 - Banking/Real Estate/Mortgage Practicum**

Designed for students without previous exposure to the financial industry chosen. Student will observe and study operations, policies and procedures performed by employees in various settings (private, public agencies, commercial corporations, etc.) Emphasis placed on client, professional support and competition interaction (both front and back office). Students may be placed with companies specializing in Banking/Credit Union Services and/or Real Estate Sales and/or Mortgage Brokerage. Final report integrating the practical and theoretical aspects of their experiences.

**Prerequisite- Corequisite**

Prerequisite: 15 credits of coursework, 9 in Business or permission of instructor.

Credits: 4



**Hours**

4 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply theory learned in the classroom within the Banking/Real Estate/Morgage setting.
2. Demonstrate working knowledge of the focus areas established at the time of placement.

**BUS 100 - Accounting I**

Introduction to accounting principles and procedures necessary to complete the accounting cycle. The course includes journals, ledgers and financial statements. Accounting for merchandising transactions, control of cash, internal control, and payroll. Course includes computerized accounting applications.

Credits: 4

**Hours**

4 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Record transactions using a general journal, and post the transactions to running balance ledger accounts.
2. Complete the end-of-period procedures, including worksheets, financial statements, adjusting and closing entries, after-closing trial balance, and reversing entries.
3. Record transactions for a merchandising concern using special journals, post the transactions to general ledger control and subsidiary ledger accounts, and prepare the supporting schedules for the general ledger control accounts.
4. Prepare and analyze an Income Statement and a Classified Balance Sheet for a merchandising concern.
5. Identify the six principles of internal control and apply them to the control of cash.
6. Prepare a bank reconciliation and prepare the necessary journal entries to reconcile the accounts.
7. Perform the computations to prepare a payroll and make the journal entries to record the payroll and the employer's payroll taxes.

**BUS 101 - Accounting II**

An expansion of the fundamental concepts and procedures of accounting. The course includes inventory valuation, receivables, payables and cash flows. The acquisition, depreciation and disposal of plant assets. Accounting methods and procedures relating to partnerships and the corporate form of business organization. Manufacturing with emphasis on the special problems and additional accounting procedures to measure, control, and report factory production costs. Course includes computerized accounting application.

**Prerequisite- Corequisite**

Prerequisite: BUS 100 Accounting I or BUS 111 Financial Accounting.

Credits: 4

**Hours**

4 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Accounting II is designed to be the second course for those seeking careers in accounting and to provide a core of basic information about the financial operations of business for those seeking careers in other areas of business.

Upon successful completion of this course the student will be able to:

1. Perform calculations necessary to determine an ending inventory and analyze the impact of inventory errors on financial statements.
2. Analyze and interpret procedures applied to notes, interest and uncollectible accounts.
3. Analyze and interpret procedures applied to acquisition, depreciation and disposal of plant and equipment.
4. Analyze and interpret procedures applied to partnerships and corporations.
5. Analyze and interpret procedures applied to manufacturing operations.
6. Analyze and record receivable and payable transactions.
7. Analyze and interpret value and record of assets.
8. Demonstrate the different methods of recording equity.
9. Compare an accrual income statement and a statement of cash flows.
10. Explain the conceptual differences between Financial Accounting and Managerial Accounting.

## **BUS 107 - The Freshman Experience**

An introduction to college life and the world of business for the beginning student in the Department of Business. College and departmental policies and procedures, academic advisement and registration, study skills, transfer and employment, College and departmental resources. Study of current trends and issues using a daily or weekly business publication. Required course for all first semester business students.

Credits: 1

**Hours**

1 Class Hour

## **BUS 108 - Accounting for a Service Business**

Introduction to basic accounting procedures. Topics include journals and ledgers, fundamental financial statements, cash and credit transactions, internal control over cash, bank reconciliation's and adjustments to cash. Merchandise transactions, special journals, estimating and recording credit losses, payroll procedures, and journal entries. Includes a major project using the computerized accounting program Quickbooks Pro.

Credits: 4

**Hours**

4 Class Hours

**Note**

(May not be used as a prerequisite for BUS 101, see BUS 100.)

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define accounting terms used in business.
2. Record business transactions for a service-based business using Quickbooks Pro.
3. Prepare and analyze financial statements.
4. Through the successful completion of written assignments and computer assignments, demonstrate an understanding of the accounting cycle.
5. Successfully complete assignments that show the students understanding of internal control systems.
6. Demonstrate the ability to record proper entries and prepare a payroll.
7. Through the successful completion of assignments and a major project, demonstrate a thorough understanding of Quickbooks software and the accounting process for a small business.

**BUS 109 - Workplace Readiness**

Emphasis will be on resume development, job search techniques, interview preparation, and workplace etiquette. The method of instruction will include lecture, discussion, and role playing.

Credits: 1

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Develop a professional resume.
2. Utilize contemporary job search techniques.
3. Explain the importance of pre-interview preparation including knowledge about the firm's history, product information, and salary expectations.
4. Prepare for job interviews by understanding the interview process from the employer's perspective; including the importance of appropriate dress and interview demeanor.
5. Discuss the need to become a responsible, knowledgeable employee with positive work attitudes.

**BUS 110 - Introduction to Business**

General background of modern business practices through the study of organization and management, production, human resources, accounting and finance, marketing, and the information needed for control and management decisions in business and society.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate a knowledge of business vocabulary through classroom discussion and assignments.
2. Outline the philosophy, objectives, and responsibilities of business and its environment.
3. Describe the private enterprise system and explain how competition and entrepreneurship contribute to the system.
4. Identify common ethical dilemmas in the workplace.
5. Identify the major global challenges that businesses of the 21st century will face.
6. Explain the factors that drive supply and demand.
7. Describe each of the four types of market structures in the private enterprise system.
8. Summarize the three basic forms of business and the advantages and disadvantages of each form.
9. Define management and identify the skill set necessary for managerial success.
10. Explain the importance of human resource management.
11. Explain the marketing concept.
12. Outline the basic steps in developing a marketing strategy.
13. Define leadership and compare different leadership styles.
14. Explain the role of management information systems in business.
15. Explain the importance of accounting and its importance to the firm's stakeholders.
16. Identify the functions performed by a firm's financial managers.

**BUS 111 - Financial Accounting**

A comprehensive introduction to financial accounting concepts and techniques intended to provide a basic understanding of the accounting cycle, elements of financial statements, and interpretations. Elements examined include the creation of financial statements, accounting as an information system, accrual concepts, merchandising operations, inventory, internal control, cash, receivables, long-lived assets, liabilities, stockholders' equity, investments, cash flows, and financial analysis.

Credits: 4

**Hours**

4 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Read and explain basic financial statements.
2. Analyze liquidity, debt-to-equity, and asset utilization.
3. Measure profit performance.
4. Extrapolate financial performance measures to project future results.
5. Compare an organization with other firms.
6. Report and analyze inventory, receivables, liabilities and stockholders equity.
7. Interpret income statements, balance sheets and statement of cash flow.



## **BUS 112 - Quantitative Business Methods**

Quantitative analysis of contemporary business problems. The course includes percentages, ratios, markup/markdown, cash and trade discounts. Simple and compound interest, consumer credit and insurance. Present value, future value, and annuities. An introduction to statistics and graphical analysis.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Prepare a bank reconciliation.
2. Solve for any unknown in base, rate, and portion problems.
3. Calculate the percent of change.
4. Calculate trade discounts.
5. List and explain discount and credit periods used by businesses.
6. Calculate an outstanding balance for partial payments.
7. Calculate markups based on selling price and cost.
8. Calculate bank discounts and proceeds for simple interest bearing notes.
9. Compute effective interest rates.
10. Compare simple interest with compound interest.
11. Perform future value and present value applications using the BA II Plus Calculator.
12. Prepare a loan amortization table.
13. Compute average daily balance and finance charges on open ended credit instruments.
14. Calculate the total deferred payment price and finance charges on installment loans.
15. Identify and explain the various types of life insurance.
16. Identify and compute measures of central tendency.

## **BUS 113 - Introduction to Entrepreneurship**

Designed for students who are considering a new business venture. Emphasis is placed on exploring and identifying what entrepreneurship is, understanding the challenges of entrepreneurship, recognizing and analyzing business opportunities, start-up issues, marketing, management, capital acquisition, forms of business organization, and other issues of relevance to the new entrepreneur.

Credits: 4

### **Hours**

4 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define entrepreneurship and identify the role that entrepreneurs play in the economy today.
2. Explore and evaluate entrepreneurship opportunities.
3. Through classroom discussion and case analysis, identify the marketing efforts needed to achieve entrepreneurial success.



4. Identify the start-up issues that entrepreneurs face.
5. List financing options that are available to entrepreneurs.
6. Identify advantages/disadvantages of different forms of business organizations.
7. Thorough classroom discussion and case analysis, demonstrate an understanding of the importance of the function of management and its overall impact on the success of the business.

## **BUS 114 - Entrepreneurship Law**

Entrepreneurship Law is designed to introduce the student to the constantly changing legal environment surrounding the operation of a business entity. The Securities Dealer) broker-dealer or a bank affiliate. The Series 6/Series 63 course will effectively prepare them for the qualifying exams (Series 6-Federal, Series 63-NYS). Requires broker/dealer sponsorship to sit for federal/state exams.

Credits: 3

### **Hours**

3 Class Hours, 1 Laboratory Hour

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. List and recognize the sources of the legal regulatory environment.
2. Detail the structure of the Court system as related to litigating a legal entrepreneurial issue.
3. Understand and be able to articulate the legal distinctions of the various types of business formations.
4. Prepare an enforceable contract.
5. Understand and be able to identify and respond to pending and existing legislation which will affect the entrepreneurial environment.
6. Detail the risks and responsibilities surrounding Tort Law.
7. Detail the nature and depth of the business owner's legal liability in the business workplace by preparing the requirements of an insurance policy.
8. Understand the ever changing role of E-Commerce by locating and detailing various e-commerce sites.

## **BUS 115 - Business Statistics**

Concepts and mechanics of measures of central tendency, measures of dispersion, probability, sampling theory, estimation, hypothesis testing, regression and correlation and other statistical techniques as they relate to general problems in business and economics.

### **Prerequisite- Corequisite**

Prerequisite: MAT 092 Foundations for College Mathematics II or equivalent (course one high school math).

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the uses and potential misuses of statistical calculations and procedures in business applications.
2. Calculate measures of central tendency and dispersion, and understand their use in business applications.
3. Recognize common statistical symbols.
4. Calculate basic probabilities. Understand related terminology and applications.
5. Calculate normal and binomial probabilities and understand how to use them in business applications.
6. Understand sampling theory, applications, and procedures.
7. Calculate interval estimates for large and small samples and proportions, as well as understand how the estimates are used in applications in business and economics.
8. Perform the calculations necessary to do one or two tailed hypothesis tests for large and small samples and proportions, and understand the application of these to problems in business and economics.
9. Perform the calculations necessary to estimate sample size for various sampling situations.
10. Perform regression and correlation calculations, and understand the application of these to problems in business and economics.
11. Be proficient in the use of Excel or other software to perform various statistical calculations, including those for descriptive statistics, probabilities, and single/multiple regression and correlation.
12. Demonstrate critical thinking skills in the recognition and solution of business problems using statistical methods and procedures.

## **BUS 116 - International Business Environments**

An overview of the social, cultural, political, and economic factors that influence the trade related interaction of nations and the operations of global business enterprises. Trade theory, economic integration, global sourcing, export-import basics, cultural awareness, and other current topics relating to international business will be covered.

Credits: 3

### **Cross-listed**

SOS 116 - International Business Environments

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Analyze data on the global nature of economic and business activity.
2. Utilize the basic strategies for entering foreign markets to assess decision-making by international business enterprises.
3. Critique political and economic systems encountered by international business.
4. Discuss cultural differences among nations and within nations along with the challenges these differences create for international business.
5. Apply international trade theory to cases involving international business.

6. Analyze and discuss current issues relating to globalization of markets and production and the consequences for businesses, workers, communities, and national policy.
7. Work with and interpret examples of protectionism as to their rationale and consequences for businesses, workers, communities, and national policy.
8. Research various international organizations and regional trade groups including the WTO (World Trade Organization) and European Union by using each organizations website.
9. Convert currencies and calculate the impact of foreign exchange movements on international business contracts.
10. Select appropriate strategy for managing all aspects of an international business including export/import financing.
11. Analyze the benefits and costs of different international strategies by using Case Method.

## **BUS 118 - Business Law I**

Law as an evolutionary and democratic process. Topics include torts and criminal law, court structure, ethical issues in business, administrative law, law-of-contracts, legal principles of agency, employment rights and an introduction to business organizations including partnerships.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the basic principles of business law.
2. Discuss the court structures in the United States and identify which court to go to for different types of relief.
3. Compile the sources of law in the U.S. system.
4. Compare torts and negligence law.
5. Study and analyze common law contracts.
6. Apply basic business law knowlege to personal and business transactions.
7. Recognize situations where the services of an attorney should be utilized.
8. Discuss legal forms fo business organizations including partnerships.
9. Apply critical thinking skills in working through issue spotting and legal analysis.

Assessment of outcomes measured by exams, papers, and in-class study discussion.

## **BUS 120 - Business Law II**

The law governing the negotiation or transfer of commercial paper, law of sales, law of personal and real property, bailments, secured transactions, landlord-tenant relationships and an introduction to corporate law. This course is included in the campus general education requirements as a writing emphasis course.

### **Prerequisite- Corequisite**

Prerequisite: BUS 118 Business Law I and ENG 110 College Writing I.



Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain principles of business law.
2. Explain advanced topics of law that build on the knowledge gained in Business Law I (BUS 118) including corporation law.
3. Discuss the sources of law in the U.S. system.
4. Demonstrate a well developed understanding of personal property law.
5. Demonstrate a well developed understanding of real property law.
6. Demonstrate a well developed understanding of landlord and tenant law.
7. Identify and explain the important aspects of the law of bailments.
8. Identify and explain the important aspects of the law of sale of goods.
9. Utilize basic business law knowledge for personal and business transactions.
10. Demonstrate a well developed understanding of the law relative to commercial paper.
11. Demonstrate a well developed understanding of the law of secured transactions.
12. Recognize situations where the services of an attorney should be utilized.
13. Demonstrate critical thinking skills in working through issue spotting and legal analysis.

## **BUS 124 - Financial Fraud Investigation**

Nature, detection, investigation of fraud in organizations of all types and sizes. Forensic accounting techniques and methods for investigation, inquiry and recognition. Also includes examination of fraud related to consumers, bankruptcy, divorce, taxes and identity theft. This course may use computer simulations and outside speakers.

Credits: 3

**Cross-listed**

CRJ 124

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define fraud and distinguish between civil and criminal fraud.
2. Recognize and identify who commits fraud.
3. Identify warning signs of fraud.
4. Perform a basic fraud audit.
5. Perform net worth calculations on fraud suspects.
6. Prepare a fraud report.
7. Analyze and solve fraud prevention, detection, and investigation scenarios.
8. Recognize financial statement fraud exposures.
9. Analyze and compute the effects of financial statement fraud on net income.
10. Search for revenue-related, inventory, and cost of goods sold related fraud schemes.

11. Identify the various ways in which employees, vendors, and customers steal company assets.
12. Identify different bankruptcy, divorce, and tax fraud schemes.

## **BUS 129 - Consumer Behavior**

Emphasizes the development of how people make purchase decisions in the marketplace. Consumer decision making, learning, brand loyalty and market segmentation.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain the concepts of consumer behavior analysis.
2. Demonstrate the application of marketing concepts within the customer decision making process through discussions and projects.
3. Discuss the impact of culture and subculture as a marketing variable.
4. Demonstrate an understanding of consumer behavior research techniques.

## **BUS 131 - Personal Finance**

Guidelines for financial planning regarding long-term and short-term installments buying, i.e., homes, autos, etc., credit, insurances, taxes, savings, budgeting, and investments in real estate, stocks, bonds, IRA's, mutual funds, money market accounts, etc.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Create a plan or alter an existing plan for his/her financial goals.
2. Stretch his/her income through careful use of budgeting, tax planning, wise use of credit, and careful purchase of housing and vehicles.
3. Protect income and assets through effective use of insurance.
4. Invest properly for future goal achievement through an understanding based on their Risk Profile.
5. Plan for retirement years and estate transfer.

## **BUS 135 - Investments**



In depth study of investing in the electronic age. Selection, analysis, and valuation of stocks, Mutual Funds, REIT's, Unit Investment Trusts, Fixed Income Securities, Government Securities, Options, futures, and retirement/pension choices. Non-Financial Assets such as collectibles and precious metals as tools of investing. Using the Internet to gather investment information.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Utilize various research sources (business periodicals, industry publications, investment software, company financial statements, etc.) to assist in the selection and analysis of investment vehicles relative to risk/return, etc.
2. Identify main economic and global influences on investment categories to assist in comparing and contrasting various vehicles.
3. Understand and utilize the buying and selling procedures of various sources, including securities exchanges, NASDAQ, etc.
4. Evaluate various retirement/pension choices as they relate to current/future tax implications, accessibility, retirement needs and estate transfer.

## **BUS 141 - Marketing**

Introductory study of Marketing as an art and a science. Analysis of the basic principles and practices necessary to complete the marketing cycle effectively. Marketing of goods and services, from conception of the original product idea to delivery to the ultimate consumer. Marketing mix, marketing concept, environmental and societal constraints. Lecture, discussion, cases.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discuss the environment of marketing and its role in business and society.
2. Integrate global awareness and use of technology in customer relationships.
3. Make marketing mix strategic decisions regarding product, distribution (place), promotion, and price.
4. Compare and contrast final consumer behavior with organizational consumer decisions.
5. Demonstrate mastery of material, including product life cycle, new product planning process, information collection and analysis, marketing concept, relationship marketing, strategic planning, etc.
6. Incorporate social services, accounting, and statistics in solving marketing problems and making strategic decisions.
7. Identify new developments that illustrate the dynamic nature of the field.

## **BUS 142 - Marketing for the Non-Profit Organizations**

Introductory study of marketing for organizations that operate in the public interest without a profit motive. Analysis of the differences and similarities of profit-oriented and non-profit marketing. Emphasis of the exchange process, marketing concept, and environmental and societal constraints. This course is designed to assist non-profit organizations or individuals in applying the appropriate marketing concepts and strategies to generate adequate financial and public support. Lecture, cases, and discussions.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Differentiate the differences between profit and not-for-profit marketing concepts.
2. Utilize the strategic marketing planning process of the marketing concept.
3. Employ concepts of consumer behavior as it relates to non-profits.
4. Demonstrate understanding of consumer behavior through classroom discussions and assignments.
5. Define with the concept of organizational positioning in order to maximize the organizations exposure to potential users.
6. Utilize a marketing approach to fund raising and acquiring volunteers.
7. Create a marketing plan and budget.
8. Formulate marketing communication strategies.
9. Define and practice methods of managing public media and public advocacy.

## **BUS 152 - Selling Fundamentals**

Principles of sales with practical application. Steps leading to a successful sale - prospecting, planning and delivering, dramatizing, handling objections, closing, building good will. Development and presentation of a complete procedure for a product or service. Closed-circuit television used to critique sales presentations.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the Salesperson's responsibilities and qualifications.
2. Be capable of analyzing the elements of consumer motivation.
3. Demonstrate methods of prospecting and explain why prosperity is important.
4. Plan and deliver effective sales presentations.
5. Explain methods used to dramatize a sales presentation.
6. Demonstrate effective methods of handling customer objections and closing the sale.

## **BUS 156 - Real Estate for Salesperson**

Designed to meet current New York State requirements for licensure as a real estate salesperson. Land use regulation, law of contracts, real estate instruments, real estate mathematics, brokerage and the law of agency, valuation and listing procedures, license law and ethics, human rights and fair housing, appraisal techniques, real property taxation and assessment.

Credits: 5

### **Hours**

5 class hours

### **Course Profile**

Course Outcomes:

After successful completion of this course, students will be able to:

1. Develop and administer an ability to transfer the ownership of a real estate interest.
2. Prepare a real estate deed.
3. Prepare a mortgage, and note.
4. Evidence an understanding of various restrictions on title by preparing language and inserting the language on an appropriate deed of title.
5. Prepare and analyze a real estate contract.
6. Prepare the real estate closing statement and administer the closing statement at the real estate closing. These functions require an ability to be a critical thinker and effective communicator.
7. Have mathematical efficiency in calculating the closing mathematics as required by banking and federal/state requirements which govern the closing function.

## **BUS 163 - Real Estate for Salespersons**

Designed to meet New York state requirements for licensure as a real estate salesperson. Land use regulation, law of contracts, real estate instruments, real estate mathematics, real estate finance, closing and closing costs, brokerage and the law of agency, valuation and listing procedures, license law and ethics, human rights and fair housing.

Credits: 3

### **Hours**

3 Class Hours

## **BUS 164 - Real Estate for Brokers**

Designed to meet New York state requirements for licensure as a real estate broker. Land use regulation, operation of a real estate broker's office, general business law construction, subdivision and development, leases and agreements, liens and easements, taxes and assessments, investment property, property management, condominiums and cooperatives, appraisal, advertising, rent regulations.

**Prerequisite- Corequisite**

Prerequisite: BUS 163 Real Estate for Salespersons.

Credits: 3

**Hours**

3 Class Hours;

**BUS 170 - Insurance for Agents and Brokers**

Comprehensive survey of insurance. Fire, marine, automobile, owner liability, burglary, boiler, machinery, accident and health, fidelity and surety insurance, insurance law and duties of the agent. Designed to meet prelicensing requirements for the N.Y.S. Property and casualty insurance license. Course offered based on student demand and may not be offered every semester.

Credits: 7

**Hours**

7 Class Hours

**BUS 172 - NyS Life/Health Insurance Licensing**

Prepares students to complete New York State licensing exams in life, accident, and health insurance. Life Insurance Principles, Uses, Insurance Contracts, Group Insurance, Annuities, Social Security Programming, Laws on Insurance, Accident & Health Necessity, Accident & Health Insurance Terminology, Accident & Health Risk Selection, Types of Accident & Health Policies, Statutory Plans, Types of Accident & Health Carriers, Types of Accident & Health Coverage, Statutory Policy Provision, Agency Duties & Responsibilities.

Credits: 2

**Hours**

2 Class Hours

**BUS 181 - The Internet with Business Applications**

In depth examination of the internet and how It is used by modern business. Use of tools such as browsers, e-mail, FTP, and website construction software. Strategic issues in the design of an effective business website, including the construction of an actual site. Discussion of contemporary issues and trends.

Credits: 3

**Hours**

3 Class Hours



## **BUS 183 - Securities Training Series (Series 6 and 63)**

This course is designed for individuals who will be selling only investment company products (eg. Mutual funds, money market funds) and variable contracts for an NASD (National Association of Securities Dealer) broker-dealer or a bank affiliate. The Series 6/Series 63 course will effectively prepare them for the qualifying exams (Series 6-Federal, Series 63-NYS). Requires broker/dealer sponsorship to sit for federal/state exams.

Credits: 3

### **Hours**

3 Class Hours, 1 Laboratory Hour.

## **BUS 184 - Financial and Risk Management Practicum**

Designed for students without previous exposure to the financial industry chosen. Student will observe and study operations, policies and procedures performed by employees in various settings (private, public agencies, commercial corporations, etc.) Emphasis placed on client, professional support and competition interaction (both front and back office). Students may be placed with companies specializing in Financial Planning/Investing and/or Personal and Business Life and Accident and Health Insurance and/or Pension and Benefits Administration. Final report integrating the practical and theoretical aspects of their experiences.

### **Prerequisite- Corequisite**

Prerequisite: 15 hours of course work, 9 in Business or permission of Instructor.

Credits: 4

### **Hours**

4 Class Hours

## **BUS 188 - Income Tax I**

An introduction to individual federal income tax concepts and applications including tax policy considerations and the historical development of tax law. Develops the concepts of gross income, capital gains and losses, itemized deductions, employee expenses, deferred compensation, depreciation, property transactions, tax credits and tax planning. Emphasis on tax theory and practical application of theory by preparing returns manually and with tax preparation software.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Prepare personal income tax forms for the average wage-earning taxpayer using correct interpretation of tax law and proper taxpayer information.
2. Demonstrate knowledge of various sources of information regarding income taxes and use this

information in the proper preparation of tax returns.

3. Use current laws and regulations concerning income taxes and demonstrate this knowledge in the proper preparation of tax returns.

4. Prepare returns and schedules by hand and through the use of tax preparation software.

## **BUS 190 - Marketing and the World Wide Web**

An introduction to basic marketing principles and practices. Emphasis on global aspects of marketing, consumer understanding, identification of target markets, and basic elements of advertising on the Internet. An examination of how businesses design websites with specific emphasis on customer service and evaluation of customer responses.

### **Prerequisite- Corequisite**

Prerequisite: Prior knowledge of e-mail, Internet, and HTML recommended.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate the basic concepts of marketing of goods and services on the Internet.
2. Explain global aspects of marketing on the Internet.
3. Discuss the importance of consumer research in successful marketing efforts. Use the Internet as a market research tool.
4. Demonstrate the overall role the Internet may play in a firm's marketing strategy.
5. Become familiar with basic advertising using the Internet.
6. Analyze marketing aspects of a web page.
7. Discuss current, practical and upcoming uses of the Web as a marketing tool.
8. Discuss the importance of customer service and evaluation of customer responses.

## **BUS 200 - Intermediate Accounting I**

An intensive study of accounting theory and procedures. Emphasis on the balance sheet accounts and their inter-relationship with income statement accounts, the accounting process, and correction of errors. Advanced treatment of cash, receivables, and inventories.

### **Prerequisite- Corequisite**

Prerequisite: BUS 101 Accounting II.

Credits: 4

### **Hours**

4 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Analyze and interpret financial data of the conceptual framework of accounting.
2. Analyze and interpret financial data of the concepts and principles forming the theoretical structure of accounting.
3. Analyze and interpret financial data of the significance and limitations of the balance sheet.
4. Analyze and interpret financial data of the income statement and limitations of the income statement.
5. Analyze and interpret financial data of the valuation of marketable securities, receivables, and inventories.
6. Analyze various treatments of key elements of the Balance Sheet.
7. Project the financial consequences of alternative courses of action with regard to bad debt allocation, allowance for depreciation, warranties, depletion, and amortization.
8. Create an inventory system appropriate to a specific business.
9. Compare FASB standards to International Accounting Standards.
10. Discover and correct errors and create a clear and complete paper trail.
11. Utilize the time value of money to guide decision making.

## **BUS 201 - Intermediate Accounting II**

A more advanced treatment of accounting for property, plant, equipment, intangible assets, current and long-term liabilities. Corporation accounting, funds flow reporting, financial statement analysis.

### **Prerequisite- Corequisite**

Prerequisite: BUS 200 Intermediate Accounting I.

Credits: 4

### **Hours**

4 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discuss the intricacies of accounting for long term assets.
2. Value, record, and analyze liabilities.
3. Explain the differences between invested equity and earned equity.
4. Demonstrate the differences between the direct and indirect method of presenting a statement of cash flows.
5. Discuss the appropriate revenue recognition principle.

## **BUS 202 - Securities Training Series 7**

This course will effectively prepare individuals to pass the General Securities nyse/nasd Registered Representative Examination. The Series 7 license permits individuals to engage in sales and trading activities related to a variety of products including stocks, bonds, mutual funds, municipal securities, options, and direct participation programs. Requires broker/dealer sponsorship to sit for federal/state exams.

Credits: 3



**Hours**

3 Class Hours, 1 Laboratory Hour.

**BUS 205 - Cost Accounting**

Nature and purpose of Cost Accounting and Cost Management. Examine job-order, process, operation, and activity-based costing environments and accounting systems. Accounting for the allocation of manufacturing overhead, common costs, and joint costs. Comparison of absorption, variable, and throughput costing methods. Constructing budgets, emphasizing the flexible budgeting system, and the "analysis of variances" methods.

**Prerequisite- Corequisite**

Prerequisite: BUS 210 Managerial Accounting.

Credits: 4

**Hours**

4 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate the major concepts of cost accounting and cost management.
2. Demonstrate each of the following concepts, do the basic calculations required to process the information associated with each topic, and utilize the results of that analysis to make effective business decisions:
  - a. Inventory planning and control.
  - b. Job costing systems.
  - c. Process costing systems.
  - d. Operations costing systems.
  - e. Activity-based costing.
  - f. Joint-product costs and allocation systems.
  - g. Standard costing systems.
  - h. Flexible budgets.
  - i. Allocating service department costs.
3. Demonstrate critical thinking skills in performing the calculations, analyzing the results, and making interpretations based upon those results.
4. Demonstrate mathematical skills specific to business applications by using algebra, percents, ratios, special functions, and statistical procedures to analyze the information included in the topics listed above.
5. Demonstrate their ability to use calculators and computers to solve business applications. Students will be able to use Excel or Lotus software to track inventory costs and to allocate costs.
6. Design their own spreadsheet using Excel or Lotus for at least two of the topics. This will include formatting, labels, and formulas. (This can be done for Process costing, Standard costing, Flexible budgeting, or any of the cost allocation procedures.)
7. Demonstrate cost accounting and cost management from a global perspective which will include topics of international implications. (In today's world many corporations are multinational and it is absolutely imperative students can function in a global business environment).



## **BUS 209 - Operations Management**

A study of the overall production-related activities of a manufacturing firm. Topics include: project planning, capacity planning, scheduling, inventory management, MRP, JIT, CIM and TQM.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the role that operations management plays in a changing global economy.
2. Calculate measures of productivity.
3. Construct Gantt charts and Critical Path Networks.
4. Use TQM tools for the generation of ideas, the organization of data, and the identification of problems.
5. Identify the four process strategies and describe how they relate to volume and variety of goods and services.
6. Develop and evaluate critical success factors affecting location selection.
7. Demonstrate critical thinking skills necessary for the recognition and solution of business problems using current operations management concepts and strategies.

## **BUS 210 - Managerial Accounting**

Accounting for managerial analysis and decision making, providing an analysis of accounting data useful in the planning and control functions of a firm. Study of cost concepts, break-even, cost estimation, differential accounting, responsibility accounting, capital budgeting.

### **Prerequisite- Corequisite**

Prerequisite: BUS 101 Accounting II or BUS 111 Financial Accounting.

Credits: 4

### **Hours**

4 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain the major concepts of Managerial Accounting and be able to state the differences between managerial and financial accounting.
2. Understand each of the following concepts, do calculations required to process the information associated with each topic, and discuss how to utilize the results of that analysis to make effective business decisions:

- a. Cost behavior patterns and their relationship to costs, volume, and profits.
  - b. Differential Accounting for short term non-programmed decisions.
  - c. Financial analysis and analysis of profitability.
  - d. Budgeting, including individual budgets and the master budget.
  - e. Capital expenditure decisions.
  - f. Pricing products and services.
3. Demonstrate critical thinking skills in performing the calculations, analyzing the results, and making interpretations based upon those results.
  4. Demonstrate mathematical skills specific to business applications by using algebra, percents, ratios, special functions, and statistical procedures to analyze the information included in the topics listed above.
  5. Demonstrate their ability to use calculators and/or computer spread sheets to solve managerial accounting problems.
  6. Demonstrate an understanding of managerial accounting activities from a global perspective including special problems related to differences in currency, culture, legal, and government.

## **BUS 213 - Business Plan Development**

Students will learn how to research, develop and write a detailed business plan. Emphasis is placed on understanding the major sections of a business plan: Management and Organization Plan, Product/Service Plan, Marketing Plan, and Financial Plan. In addition the identification and evaluation of resources available for small business funding will be explored. Students will be required to develop and present a business plan.

### **Prerequisite- Corequisite**

Prerequisite: BUS 113 Introduction to Entrepreneurship.

Credits: 3

### **Hours**

3 Class Hours;

## **BUS 214 - Customer Service**

A comprehensive survey of all aspects of customer service. Analysis of basic principles and practices leading to in-depth consideration of customer service specifics. Topics covered will include measuring customer satisfaction, managing customer service, telephone skills, handling difficult customers, and multicultural customer service. Other areas of customer service will be examined as current circumstances and areas of interest dictate. This course is the capstone course for the customer service certificate program, but is of value to anyone interested in building customer satisfaction and loyalty.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain the role of customer service within an organization.
2. Analyze the customer position as the center of all business activities.
3. Discuss the value of effective customer service to the long term success of an organization.
4. Develop skills and abilities necessary to effectively deal with an increasingly diverse customer base.
5. Develop a personal philosophy relative to the importance and methodology of customer service.
6. Develop a program to initiate an organization-wide commitment to servicing and maintaining the current customer base.

### **BUS 216 - Special Topics in International Business**

This course is designed to study current international, regional, country-specific, industry, and firm-based issues related to concepts in international business practice and environment. Working individually and/ or in a group the student will engage in critical analysis of a broad range of selected readings and case studies. Application of concepts in global economic and business theory presented by the student through writing and discussion.

#### **Prerequisite- Corequisite**

Prerequisite: International Business major and BUS 116 or SOS 116 International Business Environments, or permission of instructor.

Credits: 3

#### **Hours**

3 Class Hours;

### **BUS 224 - Business Finance**

Financial principles and procedures of capital management. Analysis of the relationship of finance to micro and macroeconomic factors such as inflation, business cycles, competition, and regulation. Emphasis on corporate goals and objectives as a determining factor in the choice of financial management policy. Financial ratios, cash budgeting, forecasting, leverage, working capital policy, capital markets, stocks and bonds, valuation, and other basic areas of finance.

#### **Prerequisite- Corequisite**

Prerequisite: BUS 101 Accounting II or BUS 111 Financial Accounting, MAT 092 or Equivalent.

Credits: 3

#### **Hours**

3 Class Hours

#### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the functions of finance in management's goals and objectives.
2. Demonstrate an expanded familiarity with the terminology/vocabulary of the business and financial community.
3. Identify the role of financial management to the current economic environment, theory, and policy.
4. Compute ratios and use ratio analysis to make financial decisions.
5. Prepare proforma statements.
6. Prepare a cash budget.
7. Calculate operating and financial leverage.
8. Apply the principles of working capital management to current assets and short-term financing.
9. Demonstrate an understanding of time value of money by the completion of problems involving annuities, present value, future value, sinking funds and amortization tables.
10. Calculate the cost of capital.
11. Incorporate risk analysis in capital budgeting decision.
12. Evaluate long-term financing options.

## **BUS 229 - Advertising**

Development, economics, functions of advertising. Cost application, media, testing and research methods. Development of advertisements, copy and layout, methods and problems of reproduction. Planning the advertising campaigns with step-by-step developments. Lectures, discussions, demonstrations. Students are required to use the computer to generate graphics. BUS 141 Marketing is recommended as preparation for this course.

Credits: 4

### **Hours**

4 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discuss the purpose of advertising in an economy.
2. Explain the advantages and disadvantages of the major advertising media.
3. Explain how an advertiser should go about selecting media to enhance the overall marketing efforts of a business.
4. Prepare an advertising campaign that demonstrates basic ability to create ads for various media.

## **BUS 238 - Marketing Research**

Methods of collecting and interpreting marketing information which affects marketing management. Specific applications to problem identification in market development, gauging market potential and implementation of research designs in the marketplace.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:



Upon successful completion of this course the student will be able to:

1. Explain the role of marketing research within a firm.
2. Apply the elements of research design.
3. Formulate data collection.
4. Apply sampling methods in marketing.
5. Analyze collected data.
6. Demonstrate an understanding of specific research applications.

## **BUS 240 - Labor/Management Relations**

An examination of the complex and dynamic interaction between management and organized labor. Coverage will include the origin and growth of unions and emphasize the legal, managerial, economic, and human factors relevant to past and current labor/ management relations. The contract negotiation process and internal union structure will also be covered along with other current and timely topics. Lecture, Discussion, Case Studies, and Case Law.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain the history and development of unions.
2. Explain how unions are formed.
3. Explain the American Labor Relations Process.
4. Demonstrate how to interpret and apply Public Policy as it relates to the Labor Relations Process.
5. Analyze the necessities and actualities of the bargaining process.
6. Explain how union/management relations can be cooperative instead of adversarial.

## **BUS 242 - Marketing Seminar**

Senior capstone course which integrates various business subjects previously studied. Individual and team approach are utilized to analyze comprehensive marketing and management cases. A competitive computer based marketing simulation will give students a realistic view of the dynamic interaction of various marketing and management forces. This course is student centered and focuses on interpretation of marketing information and the development of critical thinking skills. Cases, computer simulation, discussion.

### **Prerequisite- Corequisite**

Prerequisite: BUS 141 Marketing.

Credits: 3

### **Hours**

3 Class Hours

### **Note**

Non-marketing majors must have instructor's permission.

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate the interrelationship of Business subjects previously studied.
2. Analyze marketing application to non-profit as well as profit organizations.
3. Apply problem-solving and decision-making capabilities to the marketing process.
4. Assess the team concept as it applies to marketing endeavors.
5. Be proficient in marketing, its strategies, outperforming competition, and solving marketing problems.
6. Analyze the consequences of marketing actions before implementing those actions.

## **BUS 244 - Employment Law**

An introductory study of employment law. Emphasis on statutory interpretation, case law and the overall legal environment, and legislation intent. Lecture and discussion.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain the basic concepts of employment law.
2. Explain various existing statutory language and its effect on the citizen and institution.
3. Demonstrate an understanding of legal terminology not common to the layperson through classroom discussion and assignments.
4. Analyze how employment law effects the work place environment.
5. Define ever-increasing legislation affecting the world of work.
6. Demonstrate the importance of employment law principles as a segment of the national labor relations environment.

## **BUS 245 - Management: A Behavioral Approach**

An analysis of individual and group behavior, leadership, and culture of an organization. Emphasis is placed on the psychological, sociological and other variables useful in understanding organizational behavior. Major topics include motivation, decision making, communication, group dynamics, organizational change, leadership and other related aspects of organizational behavior.

Credits: 3

### **Hours**

3 Class Hours

## **BUS 246 - Principles of Management**

Principles of managerial practices. Planning, organizing, directing and controlling. Exposes students to proper methods and techniques to achieve employee and job satisfaction. Topics covered include scientific management, behavioral theory and introduction to management science.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Analyze the basic management function.
2. Define management as a component of the overall organizational process.
3. Discuss historical and current management perspectives and understand the evolution of management as an art and science.
4. Explain organizational structure and design.
5. Assess management skills, such as stress and time management, communication, motivation, delegation, appraising performance, and handling conflict.
6. Critique the theoretical basis of current management thought and practices.

## **BUS 248 - Human Resource Management**

Acquisition, development, maintenance, and utilization of a workforce within an organization. Job analysis, recruitment and selection, training and development, equal opportunity law, wage/benefit administration, and union-management relations are focus areas of this course. Other timely topics such as sexual harassment and the current regulatory environment are examined as circumstances dictate. Lecture, cases, discussion.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain the role of human resource activities within a business.
2. Explain how jobs are created and evolve.
3. Analyze and employ the proper policies concerning morale, employee relations as they relate to personnel.
4. Analyze and employ beneficial union-management relations.
5. Employ within a personnel program meaningful:
  - a. recruitment procedures
  - b. selection processes
  - c. training and development programs
  - d. compensation systems
  - e. benefit programs
6. Analyze group dynamics and organizational communication policies as they relate to HR activities.

## **BUS 251 - Advanced Topics in Human Resource Management**

An in-depth continuation of the study of concepts introduced in an introductory human resource management course. Focus will be on increasing the depth and breadth of students knowledge in specific HRM topics with an emphasis on current issues. This course will use a theoretical and practical approach to demonstrate the concepts and application of major topic areas such as; staffing, compensation management, public policy and the regulatory environment, human resource development, and collective bargaining. Additional topics will be addressed as circumstances dictate. Interactive learning is stressed through discussion, cases, and experiential exercises.

### **Prerequisite- Corequisite**

Prerequisite: BUS 248 Human Resource Management or permission of the Instructor.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate comprehensive analytical and decision-making skills relative to the HRM process.
2. Explain the nature of the American collective bargaining process.
3. Interpret the content of HRM law and its day-to-day applications.
4. Analyze the major staffing activities of HR planning, recruitment and selection.
5. Explain the importance and value of maintaining an internally equitable and externally competitive wage and salary program.
6. Demonstrate the methodologies and importance of continuous HR development.
7. Analyze the changing nature of HRM through the study of currently evolving HR topics.

## **BUS 262 - Small Business Management**

An overview designed for those interested in small business as owner-managers. Development of modern management techniques covering forms of organization, site acquisition and location, insurance, marketing, financing, pricing, break-even, permits, license and franchising.

Credits: 3

### **Hours**

3 Class Hours

## **BUS 267 - Retailing in a Service Economy**

The history and overview of Retailing and the growth of the Service Sector economy. Covers the changes occurring in the distribution of goods and services including the growth of franchises, direct marketing and service businesses. The changes in retail structures, i.e., the demise of urban centers



and traditional department stores and the growth of shopping centers, malls, and specialty retailers, are central to this course.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Provide written knowledge of the background and concepts necessary to consider a career in retailing.
2. Demonstrate an increased understanding of the ethical issues surrounding all retail functions of merchandising, operations, finance, and sales promotion by examining case studies in the contemporary media and develop a position paper.
3. Describe and analyze theories of merchandising as each pertains to specific types of retail operations in a required number of discussions.
4. Describe the rationale for market segmentation strategies through the analysis of consumer life-style and life-cycle theories and provide written evidence of understanding the rationale for utilizing both quantitative and qualitative analyses in retail functions.
5. Provide evidence of understanding theories of retail sales promotion and communication, such as encoding and decoding advertising messages in discussions and written assignments.
6. Describe examples of revenue, profit, and store volume, as each relates to gross margin and store operations in both course discussions and written assignments.
7. Assess the importance of various types of store operations relative to the retail economy, and how each impacts the service economy, after field experience and store visits and have this reflected in the final store report.
8. Demonstrate an understanding of retailing by preparing a formal PowerPoint class presentation and store report, identifying relevant retailing theories.

## **BUS 269 - Business Reports and Computer Communications**

Methods and skills for formal and informal business writing through the logical analysis of business case problems. Emphasis on utilizing the computer in the preparation, transmittal, and retrieval of business information and reports. Proper construction of business charts, graphs, tables, and graphics, using various computer software. Students learn to properly construct business letters, memos, bids, quotes, and other business reports and documents. Transmitting business reports using E-mail. Accessing and transmitting business information using the computer.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Provide written evidence of the ability to communicate appropriately through electronic means by transferring business documents and information.
2. Demonstrate an understanding of appropriate business tone and style through writing samples

prepared with process writing options and then presented in a course portfolio at the end of the semester.

3. Develop business documents including charts, graphs, and tables using various computer software and include in written reports.

4. Provide evidence and knowledge of the nine types of commonly used business reports; select a customized topic; and prepare a PowerPoint outline of the report for electronic transmission, as well as complete a formal report appropriate for business. This is a culminating class activity in both face-to-face and online course.

## **BUS 275 - Accounting Information Systems**

Computer-based accounting systems with emphasis on development and implementation. Topics will include: creation of a general ledger, establishment of accounts receivable and billing procedures, management of cash and current liabilities, and payroll accounting. Also to be addressed is the development of a variety of custom management reports. The course will be divided into two parts. During part one students will learn the tools necessary to implement an accounting system. Part two will consist of students working in teams to develop a system.

### **Prerequisite- Corequisite**

Prerequisite: BUS 200 or permission of instructor.

Credits: 4

### **Hours**

4 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Set up an automated accounting system for an enterprise.
2. Record transactions using an automated system.
3. Prepare adjusting and correcting entries.
4. Create financial statements.
5. Discuss the internal control structure necessary for an automated accounting system.
6. Discuss the organizational change that the implementation of a new accounting system involves.

## **BUS 296 - Disney World Internship/Co-op**

Students accepted into the program will work for an extended period of time at the Disney World Resort in Orlando, Florida. These are paid positions, mostly full time. Students must also complete the training program for their specific job in addition to any general Disney customer service training.

### **Prerequisite- Corequisite**

Prerequisite: Students must be approved by Disney World and also approved by the BCC Business Department Co-op Coordinator.

Credits: (3-6)

### **Note**

See Co-op Coordinator for further information.

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Verify the completion of a minimum of 600 hours of work at Disney World.
2. Verify the completion of the basic Disney training program and the job specific training program. Verify completion and demonstrate knowledge of training, in writing.
3. Verify, with managers written evaluation, successful completion of work assignments.
4. Articulate, in writing, skills and knowledge obtained from the job experience.

## **BUS 297 - Co-operative Work Experience**

On-the-job experience may be obtained in such areas as retailing, banking, fast foods, government services and hotel management, as well as CPA firms, public accounting offices, industrial, business and government offices where accounting is performed. Cooperative work students will meet with the coordinator one hour each week.

### **Prerequisite- Corequisite**

Prerequisite: Full-time student (minimum of 12 credit hours) maintaining an overall grade-point average of 2.5, with 3.00 in Business courses and no F's.

Credits: (1-3)

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply classroom instruction to the job experience and articulate this in writing.
2. Investigate and report on procedures followed for employee training, evaluation, and advancement.
3. Describe, in-depth, exactly what was learned in the accomplishment of learning objectives.
4. Describe, in writing, job training and job duties.
5. Have developed work skills related to career goals and describe these in writing.

## **BUS 299 - Independent Study**

The student, under the guidance of a faculty member, undertakes an investigation, study and research in an advanced concept or problem concerning his/her major field of study.

### **Prerequisite- Corequisite**

Prerequisite: Approval of faculty member and department chairperson.

Credits: (1-4)

### **Note**

Only one independent study course is allowed per semester.

## CHM 090 - Preparatory Chemistry

Introductory course in chemistry emphasizing problem solving techniques related to chemical concepts. Atomic structure, stoichiometry, metric units, chemical bonding.

### Prerequisite- Corequisite

Prerequisite: MAT 096 Elementary Algebra and Trigonometry.

Credits: 0

### Hours

3 Class Hours, 3 Laboratory Hours

### Course Profile

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the general and physical properties of matter.
2. Understand the basic model of the atom.
3. Determine names and formulas of simple binary compounds and simple acids.
4. Perform basic algebraic manipulations to relative to simple chemical calculations.
5. Perform mathematical manipulations such as unit analysis with proper attention to units and significant figures.
6. Use the concept of the mole in quantitative chemical calculations.
7. Balance chemical equations.
8. Calculate amounts of chemicals involved in reactions.
9. Calculate and utilize solution concentration units such as molarity.
10. Classify chemical reactions.
11. Use concepts of pH in acidic and basic solutions.
12. Predict shape and geometry of simple molecules.
13. Understand the ideal gas law and its application in quantitative problems.

Methods of Assessing Outcomes:

The expected learning outcomes will be assessed through the use of homework assignments and/or quizzes, chapter exams, and the final exam.

## CHM 120 - Fundamental Chemistry

Composition of substances, atomic structure, periodicity, bonding, chemical equations, state of matter, aqueous solutions, pH, and an introduction to organic chemistry and biochemistry.

### Prerequisite- Corequisite

Prerequisite: MAT 090 Foundations for College Mathematics I.

Credits: 4

### Hours

3 Class Hours, 3 Laboratory Hours



## Course Profile

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the general and physical properties of matter.
2. Understand the basic model of the atom.
3. Determine names and formulas of simple binary compounds and simple acids.
4. Perform basic algebraic manipulations to relative to simple chemical calculations.
5. Perform mathematical manipulations such as unit analysis with proper attention to units and significant figures.
6. Use the concept of the mole in quantitative chemical calculations.
7. Balance chemical equations.
8. Calculate amounts of chemicals involved in reactions.
9. Calculate and utilize solution concentration units such as molarity.
10. Classify chemical reactions.
11. Use concepts of pH in acidic and basic solutions.
12. Predict shape and geometry of simple molecules.
13. Understand the ideal gas law and its application in quantitative problems.
14. Discuss the naming and classification of organic compounds.
15. Discuss the basic reactions of organic compounds.
16. Discuss the naming and classification of biochemical compounds.
17. Discuss the basic compounds of food, carbohydrates, lipids, and proteins.
18. Discuss the basic chemical reactions of a living system.
19. Discuss the basic chemical reaction of drugs.
20. Discuss the basic chemical reactions of poisons.

Methods of Assessing Outcomes:

The expected learning outcomes will be assessed through the use of homework assignments and/or quizzes, chapter exams, and the final exam.

## CHM 121 - Forensic Sciences

The science behind the examination of firearms, cartridges, explosives, drugs and other types of physical evidence by the crime lab is presented. Emphasis on proper handling of substances found in crime scene investigations. Laboratory techniques include many modern instrumental methods, such as gas chromatography, infrared and mass spectroscopy as used in today's modern crime labs.

Credits: 4

### Hours

3 Class Hours, 3 Laboratory Hours

### Course Profile

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discuss the history of Forensic Science.
2. Discuss those areas of chemistry, biology, physics, and geology relating to the analysis of physical evidence.
3. Carry out the laboratory analysis of physical evidence using gas chromatography, mass spectroscopy, HPLC, head space GC, Atomic and Infrared Spectroscopy.

4. Recognize, collect, package, and document physical evidence from a crime scene.
5. Calculate a PMI from Algor mortis, livor mortis, and rigor mortis.
6. Calculate a PMI from insect larva.
7. Conduct a crime scene search.
8. Discuss the various type of physical evidence.
9. Analyze body fluids for drugs and poisons.
10. Discuss and analyze arson and explosive evidence.
11. Discuss and analyze fabrics evidence in a criminal trial.
12. Discuss and analyze illegal drugs.
13. Discuss and analyze firearm evidence.
14. Discuss and analyze glass fragment for RI and density.
15. Discuss and analyze glass fracture patterns.
16. Calculate vehicle speeds from skid marks and crush depths.
17. Discuss and analyze hair found at a crime scene.
18. Discuss and analyze fingerprint evidence found at a crime scene.
19. Discuss and analyze toolmark evidence found at a crime scene.
20. Discuss and analyze paint evidence found at a crime scene.
21. Discuss and analyze questioned document evidence found at a crime scene.
22. Discuss and analyze DNA evidence found at a crime scene.
23. Discuss and analyze computer evidence found at a crime scene.

Methods of Assessing Outcomes:

The expected learning outcomes will be assessed through the use of homework assignments and/or quizzes, midterm exams, and the final exam.

## **CHM 123 - Environmental Science**

Is your water safe to drink? Worry about hotter climates, holes in the ozone layer, pesticide residues in food, and extinction of species? This course is designed to give the student a better scientific background for understanding the environment from a chemical viewpoint and do hands-on laboratory investigations to better appreciate the ecosystem in which we live.

### **Prerequisite- Corequisite**

Corequisite: CHM 123L Environmental Science Laboratory.

Credits: 4

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discuss EPA primary and secondary water quality standards.
2. Discuss EPA Environmental Regulations including the clean air act, clean water act, RCRA, CERCLA, NPDES, SPDES.
3. Discuss and determine the dissolved oxygen content, nitrate, nitrite, BOD, COD, phosphate, turbidity, pH, alkalinity, hardness, total coliform bacteria, E. Coli, total and residual chlorine and their effect on an ecosystem.

4. Discuss primary production and trophic levels.
5. Discuss the Coriolis effect, orographic lifting, and the rain forest.
6. Discuss sustainable agriculture, the green revolution and organic farming.
7. Discuss fossil fuels, nuclear power, and alternative energy.
8. Discuss the Chesapeake Bay and Liebig's Law of minimums.
9. Discuss air pollution, inversion layers, and the six criteria pollutants.
10. Discuss biotic potential, R and K strategists, demographics, and the total fertility rate.
11. Produce biodiesel from vegetable oil.
12. Discuss and demonstrate how the angle of the sun at noon varies during the year and how this is used in the design of passive solar heating and cooling of houses and commercial buildings.
13. Discuss and demonstrate the use of clerestories in passive solar heating and cooling of houses and commercial buildings.
14. Discuss and demonstrate the use of trombe walls in passive solar heating and cooling of houses and commercial buildings.
15. Discuss and demonstrate the use of window overhangs in passive solar heating and cooling of houses and commercial buildings.
16. Discuss the environmental advantages and externalities of wind, hydroelectric, geothermal, solar passive, solar active, solar thermal (SEGS & Solar II), photovoltaic, hydrogen, fuel cell, and battery energy sources.
17. Discuss the role of greenhouse gases in global climate.
18. Discuss and demonstrate the use of a NEV as a zero emission vehicle and calculate the carbon footprint of an equivalent gasoline vehicle.

#### Methods of Assessing Outcomes:

The expected learning outcomes will be assessed through the use of homework assignments and/or quizzes, midterm exams, and the final exam.

## CHM 123L - Environmental Science Laboratory

Experiments in drinking water, groundwater, air, and soil analysis using EPA methodology. Analysis will include Gas Chromatography, Mass Spectrometry, Liquid Chromatography, Microbiology and Atomic Absorption Spectroscopy of real world samples.

#### Prerequisite- Corequisite

Corequisite: CHM 123 Environmental Science.

Credits: 0

#### Hours

3 Laboratory Hours

## CHM 124 - Environmental Science II

A continuation of CHM 123 Environmental Science: this course will include biotec, geologic, hydrologic, and atmospheric factors of the environment, human impacts and interdisciplinary issues. Federal and State regulations and approved methodology for monitoring and remediation will also be discussed as illustrated by case studies.



**Prerequisite- Corequisite**

Prerequisite: CHM 123 Environmental Science.

Corequisite: CHM 124L Environmental Science II Laboratory.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Produce ASTM 6751 biodiesel from waste vegetable oil collected from local restaurants.
2. Calculate the BTU content of various biomass fuels.
3. Calculate the proper angle for the design of clerestories and the proper overhang length for windows in passive solar heating and cooling of houses and commercial buildings at various latitudes.
4. Calculate the size of trombe walls needed to achieve a 50% reduction in energy usage in passive solar heating and cooling of houses and commercial buildings.
5. Calculate the square footage and materials for thermal storage walls needed to achieve a 50% reduction in energy usage in passive solar heating and cooling of houses and commercial buildings.
6. Discuss and design thermal roof units needed to achieve a 50% reduction in energy usage in passive solar heating and cooling of houses and commercial buildings.
7. Discuss and design thermal chimney units needed to achieve a 50% reduction in energy usage in passive solar heating and cooling of houses and commercial buildings.
8. Discuss and demonstrate the differences between direct and indirect solar gain used in passive solar heating and cooling of houses and commercial buildings.
9. Calculate the insulation R factors and window requirements used to design passive solar heating and cooling of houses and commercial buildings.
10. Construct a fully functional wind turbine.
11. Measure the variation in wind turbine output based on height above ground, wind speed, distance from any obstruction, and rotor rpm.
12. Calculate the instantaneous and maximum current, voltage, and power for a wind turbine.
13. Calculate the minimum wind speed required to generate power and the average power that can be generated anywhere in the U.S. based on NOAA records.
14. Measure the variation in current, voltage, and power in a photovoltaic array based on load, angle, direction, and cloud coverage.
15. Calculate the instantaneous and maximum current, voltage, and power for a PV array.
16. Connect a wind turbine, PV array, lead storage battery, load monitor, and inverter to run various loads in the Science Building.
17. Calculate the minimum sunlight required to generate power and the average power that can be generated anywhere in the U.S. based on NOAA records.

Methods of Assessing Outcomes:

The expected learning outcomes will be assessed through the use of homework assignments and/or quizzes, midterm exams, and the final exam.

**CHM 124L - Environmental Science II Laboratory**



A continuation of CHM 123L Environmental Science Laboratory emphasizing the use of approved methodology, field trips, and a special project to study environmental problems of both local and global interest.

**Prerequisite- Corequisite**

Corequisite: CHM 124 Environmental Science II

Credits: 1

**Hours**

3 Laboratory Hours;

## **CHM 125 - Chemistry**

Fundamental concepts of inorganic chemistry. Composition of substances, kinetic and molecular theories, atomic structure and bonding, solutions and colloids, ions in solution and introduction to organic chemistry. For Fire Protection Technology students.

Credits: 3

**Hours**

2 Class Hours, 3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discuss and understand the use of SI units in Fire Science.
2. Discuss and understand the basic principles of chemical elements and compounds in Fire Science.
3. Discuss and understand physical and chemical changes.
4. Discuss and understand the flow of fluids.
5. Discuss and understand heat transfer.
6. Discuss and understand how chemistry and physics relate to fire protection.
7. Discuss and understand the combustion process.
8. Discuss and understand the fire characteristics of solid, liquid, and gaseous combustibles.
9. Discuss and understand combustion products.
10. Discuss and understand the movement of fire gases.
11. Discuss and understand the computer modeling of fire.
12. Discuss and understand fire fighting procedures.
13. Discuss and understand special fire situations.

The expected learning outcomes will be assessed through the use of homework assignments and/or quizzes, chapter exams, and the final exam.

## **CHM 133 - Survey of Organic Chemistry**

Fundamental treatment of organic chemistry, nomenclature, properties of selected functional groups, mechanisms, stereochemistry and synthetic methods.

**Prerequisite- Corequisite**

Prerequisite: CHM 145 Chemistry I and CHM 145 Chemistry Laboratory I.

Corequisite: CHM 146 Chemistry II and CHM 146 Chemistry Laboratory II.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply the IUPAC rules of nomenclature to alkanes, alkenes, arenes, alkyl halides, alcohols, ethers, phenols, aldehydes, ketones, carboxylic acids, esters, amines, carbohydrates, amino acids, and proteins.
2. Draw the structures of the above mentioned compounds given their names.
3. Use the cis-trans system or the E,Z sequence rules to classify alkenes.
4. Predict the major and minor products of addition and elimination reactions using Markovnikov's rule and Zaitsev's rule.
5. Identify the major product(s) in electrophilic aromatic substitution reactions.
6. Propose synthetic routes to substituted benzenes via multi-step pathways.
7. Classify stereoisomers as either enantiomers or diastereomers.
8. Predict the predominant reaction pathway as SN1, SN2, E1, or E2.
9. Outline synthetic routes to primary, secondary, and tertiary alcohols.
10. Explain how the Williamson synthesis is used to prepare ethers.
11. Describe the preparation of aldehydes/ketones from alcohols using oxidizing agents.
12. Use Grignard reagents in syntheses that convert aldehydes/ketones to alcohols.
13. Describe the use of the Fischer esterification reaction to make esters from carboxylic acids.
14. Show how an amino group can be attached to an aromatic ring via the reduction of a nitroarene.
15. Outline synthetic routes to substituted benzenes via the Sandmeyer reaction.
16. Draw and name the cyclic structures of monosaccharides.
17. Classify disaccharides and polysaccharides as reducing or nonreducing.
18. Draw and name the structures of peptides.
19. Determine the structure of a peptide given sequencing data.

Methods of Assessing Outcomes:

The expected learning outcomes will be assessed via 8 quizzes and 12 exams.

**CHM 141 - General, Organic, and Biochemistry I**

Introductory treatment of general chemistry for the non-science student emphasizing applications of chemistry in everyday life. Measurements, atoms and bonding, the states of matter, nuclear processes, oxidation and reduction, solutions, acids and bases. Applications include energy sources, effects of radiation, the environment, life processes, testing of advertising claims. For Liberal Arts non-science students.

**Prerequisite- Corequisite**

Prerequisite: MAT 092 Foundations for College Math II.

Corequisite: CHM 141L General Chemistry Laboratory I.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the chemical and physical properties of matter.
2. Understand basic metric and scientific measurements.
3. Perform mathematical manipulations such as unit analysis with proper attention to units and significant figures.
4. Understand the basic model of the atom.
5. Determine names and formulas of simple binary and ternary compounds.
6. Perform basic mathematical manipulations relative to simple chemical calculations.
7. Use the concept of the mole in quantitative chemical calculations.
8. Balance chemical equations.
9. Calculate amounts of chemicals involved in reactions.
10. Understand the factors involved in the physical states of matter.
11. Calculate and utilize solution concentration units such as molarity.
12. Identify oxidation and reduction reactions.
13. Use concepts of pH in acidic and basic solutions.
14. Predict shape and geometry of simple molecules.

Methods of Assessing Outcomes:

The expected learning outcomes will be assessed through the use of four exams.

## **CHM 141L - General, Organic, and Biochemistry Laboratory I**

Experiments to introduce chemical laboratory techniques while increasing awareness of the chemical world and to attain some insight into how a chemist attacks a problem. Qualitative and quantitative measurements.

**Prerequisite- Corequisite**

Prerequisite: MAT 092 Foundations for College Math II.

Corequisite: CHM 141 General Organic and Biochemistry I.

Credits: 1

**Hours**

3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the chemical and physical properties of matter.
2. Understand basic metric and scientific measurements.

3. Perform mathematical manipulations such as unit analysis with proper attention to units and significant figures on laboratory data.
4. Perform basic mathematic manipulations relative to simple chemical measurements.
5. Demonstrate the use of statistics in chemical analysis.
6. Demonstrate the effects of heat in exothermic and endothermic chemical reactions.
7. Use the concept of the mole in quantitative chemical calculations.
8. Balance chemical equations.
9. Calculate the amounts of chemicals involved in chemical reactions.
10. Understand the factors pertaining to the physical states of matter.
11. Calculate and utilize solution concentration units such as molarity by means of titrations.
12. Perform an oxidation and reduction reaction quantitatively.
13. Use concepts of pH in acidic and basic solutions utilizing titrations and buffer solutions.
14. Introduce the concept of chemical reactivity and chemical kinetics.
15. Test advertizing claims utilizing chemical analysis.

Methods of Assessing Outcomes:

The expected learning outcomes will be assessed through the use of laboratory reports and quizzes.

## **CHM 142 - General, Organic and Biochemistry II**

Continuation of CHM 141 General, Organic and Biochemistry I. A survey of organic chemistry including nomenclature, reactions of selected functional groups, stereochemistry and biochemistry. Applications include consumer products, living systems, food and metabolism. For Liberal Arts non-science students.

### **Prerequisite- Corequisite**

Prerequisite: CHM 141 General, Organic and Biochemistry I.

Corequisite CHM 142L General, Organic and Biochemistry II Laboratory.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the basic chemical and physical properties of organic compounds.
2. Complete basic organic chemical equations.
3. Understand the effects of simple organic compounds on living things.
4. Determine the formulas and IUPAC names of simple organic compounds.
5. Predict the physical states and boiling point trends of simple organic compounds.
6. Understand the significance of stereoisomers and their role in biochemistry.
7. Understand the structures and basic chemistry of carbohydrates, lipids, proteins and enzymes, hormones and vitamins.
8. Understand the basic principles of metabolism.

Methods of Assessing Outcomes:



The expected learning outcomes will be assessed through the use of four exams.

## **CHM 142L - General, Organic and Biochemistry Laboratory II**

A continuation of CHM 141L General, Organic and Biochemistry Laboratory I. Laboratory emphasizing organic and biochemical reactions which substantiate classroom lectures.

### **Prerequisite- Corequisite**

Prerequisite: CHM 141 General, Organic and Biochemistry I and CHM 141L General, Organic and Biochemistry I Laboratory.

Corequisite: CHM 142 General Organic and Biochemistry II.

Credits: 1

### **Hours**

3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the basic differences between organic and inorganic compounds.
2. Complete basic organic chemical equations of the main organic chemical functional groups based on laboratory observations.
3. Determine the formulas and IUPAC names of simple organic compounds based on models.
4. Prepare aspirin and chemically compare the students aspirin to commercial aspirin.
5. Prepare polymers and compare their strength and chemical properties to commercial polymers.
6. Understand the significance of stereoisomers and their role in biochemistry based on models.
7. Understand the structures and basic organic chemical reactions of carbohydrates, lipids, soaps, and proteins.

Methods of Assessing Outcomes:

The expected learning outcomes will be assessed through the use of laboratory reports and quizzes.

## **CHM 145 - Chemistry I**

Comprehensive treatment of general chemistry for the science-oriented student. Builds on their prior chemistry, with emphasis on the basic laws and theories of chemistry and their derivation from experimental evidence. Presents the qualitative and quantitative aspects of matter's composition and changes and their unifying principles. Includes physical and chemical properties, periodicity of elements, stoichiometry, current atomic and bonding theories, laws and theories of physical states and changes of state, solution chemistry, and thermochemistry.

### **Prerequisite- Corequisite**

Prerequisite: Regents Chemistry (75 minimum final grade) or CHM 090 Preparatory Chemistry and Math A (minimum grade of 85) or MAT 096 Elementary Algebra and Trigonometry.

Corequisite: CHM 145L Chemistry I Laboratory.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the use of the Scientific Method and its importance in accessing experimental data.
2. Understand the method of factor labeling and its application of solving a variety of chemistry problems, especially mole relationships.
3. Understand the language of chemistry with regard to nomenclature, equation writing and stoichiometry.
4. Demonstrate the intricate nature of the elements by examining atomic structure, electronic configuration and formation of compounds through techniques such as spectroscopy.
5. Understand chemistry laws with their respective chemical equations to explore the gas laws, thermochemistry, atomic structure and bonding.
6. Develop a chemical aptitude to understand the importance of chemical structure of compounds with respect to bonding, intermolecular relationships and molecular geometry. This chemical awareness will be utilized to comprehend complex chemistry scenarios such as oxidation reduction systems; global climate change; pharmaceutical research; nanotechnology; energy transformations; and many other areas where chemistry helps individuals to explain the laws of nature.

## **CHM 145L - Chemistry I Laboratory**

Laboratory experiments to emphasize the empirical basis for the principles discussed in lecture and the proper gathering and interpretation of experimental data.

**Prerequisite- Corequisite**

Corequisite: CHM 145 Chemistry I.

Credits: 1

**Hours**

3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Work efficiently in a laboratory setting because they will know how to make reagents; dilute solutions; physically separate phases; and calculate appropriate amounts of reagents to control chemical reactions.
2. Understand measuring masses, volumes and physical parameters such as pressure to determine quantities of a variety of variables either dependent or independent.
3. Use many diversified analytical techniques (titration, precipitation, calorimetry, and others) to determine the identity or quantity of a chemical component.
4. Employ inductive as well as deductive reasoning to report the chemical structure or amount of an unknown using a multitude of chemical reactions such as acid-base chemistry.

5. Understand the nature of atoms, elements and compounds through spectroscopy; periodic table reactivity; chemical bonding; solution interactions; and molecular geometry.

## **CHM 146 - Chemistry II**

Continuation of CHM 145 Chemistry I including thermodynamics, kinetics, equilibrium, equilibrium in aqueous solution, acids and bases, coordination chemistry and electrochemistry.

### **Prerequisite- Corequisite**

Prerequisite: CHM 145 Chemistry I, CHM 145L Chemistry I Laboratory and Math B (minimum grade of 65) or MAT 136 College Algebra and Trigonometry.

Corequisite: CHM 146 Chemistry II Laboratory.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Manipulate the colligative properties to determine molality, molarity, mole fraction, % composition, osmotic pressure as well as molar masses of compounds.
2. Understand graphing techniques to ascertain the rate constants of chemical reactions; energy of activation,  $E_a$ ; equilibrium constants,  $K_c$ ; and acid-base dissociation constants, ( $K_a$  and  $K_b$ ).
3. Understand advanced thermochemistry functions such as Enthalpy,  $H$ ; Entropy,  $S$ ; and Gibbs-Free Energy,  $G$  to determine feasibility of chemical reactions.
4. Understand oxidation reduction systems to illustrate the value of redox reactions such as combustion processes and their thermochemistry relationships with respect to energy generation.
5. Understand the value of natural logarithmic ( $\ln$  functions) and logarithmic ( $\log$  functions) in the determination of rate constants; understanding half-life for radioactive isotopes; and solution concentrations of specific analytes (i.e., pH measurements to determine hydrogen ion concentrations).
6. Understand electrochemistry as it pertains to electromotive force,  $E_o$ ; oxidation reduction reactions; galvanic and electrochemical cells; battery construction; and fuel cell technology.

## **CHM 146L - Chemistry II Laboratory**

Continuation of CHM 145 Laboratory with experiments designed to illustrate thermodynamics, kinetics, equilibrium, qualitative analysis, and electro-chemistry.

### **Prerequisite- Corequisite**

Corequisite: CHM 146 Chemistry II.

Credits: 1

### **Hours**

3 Laboratory Hours



### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Determine the molar mass of compounds from freezing point depression, boiling point elevation, vapor pressure lowering and/or osmotic pressure.
2. Utilize graphing techniques and linear regression analysis to calculate rate constants, equilibrium constants,  $K_c$  and acid-base dissociation constants.
3. Understand acid-base systems, pH and buffer solutions (calculating pH values for buffers using the Henderson-Hasselbalch equation).
4. Understand the Laws of Thermodynamics to calculate Enthalpy,  $H$ ; Entropy,  $S$ ; and Gibbs-Free Energy,  $G$ . These interpretations will be used to determine exothermic/endothermic nature of chemical reactions as well as feasibility.
5. Understand how to use Electrochemistry to investigate oxidation reduction reactions for quantitative analysis and to understand battery construction. Electromotive force values will be determined and used to illustrate electron flow in both galvanic and electrolytic cells.

## **CHM 220 - Introduction to Instrumental Analysis**

An introduction to the theory and laboratory instruction in electrochemical, nuclear, optical and chromatographic methods of analytical chemistry. Laboratory techniques include potentiometry, conductimetry, coulometry, polarography, liquid scintillation counting, gamma spectrometry, ultraviolet-visible, infrared, atomic absorption spectrophotometry, gas, ion, high performance liquid chromatography, and gas chromatography, mass spectrometry. For Medical Laboratory Technology students.

### **Prerequisite- Corequisite**

Prerequisite: CHM 146 Chemistry.

Credits: 2

### **Hours**

1 Class Hour, 3 Laboratory Hours;

## **CHM 245 - Organic Chemistry I**

A fundamental treatment of organic chemistry. Organic nomenclature, chemical properties of selected functional groups, mechanisms, stereochemistry and synthetic methods. For Liberal Arts science majors and Engineering Science students with departmental approval.

### **Prerequisite- Corequisite**

Prerequisite: CHM 146 Chemistry II.

Corequisite: CHM 245L Organic Chemistry Laboratory.

Credits: 3

### **Hours**

3 Class Hours



## Course Profile

### Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply the IUPAC rules of nomenclature to the alkanes, alkyl halides, alkenes, and alkynes.
2. Draw the structures of the above mentioned compounds given their names.
3. Interpret Lewis, condensed, and line-angle structural formulas.
4. Predict the hybridization and geometry of the atoms in a molecule.
5. Identify constitutional isomers and stereoisomers.
6. Describe the structures and relative stabilities of carbocations and carbanions.
7. Given an IR spectrum, identify the characteristic peaks and functional groups.
8. Use IR data to propose structures for unknown organic compounds.
9. Classify molecules as chiral or achiral, and identify mirror planes of symmetry.
10. Identify asymmetric carbon atoms, and name them using (R) and (S) nomenclature.
11. Draw all stereoisomers of a given structure.
12. Classify stereoisomers as enantiomers, diastereomers, or meso compounds.
13. Predict the products of SN1, SN2, E1, and E2 reactions, including stereochemistry.
14. Identify the predominant reaction pathway as SN1, SN2, E1, or E2.
15. Predict the major and minor products of addition and elimination reactions using Markovnikov's rule and Zaitsev's rule.
16. Use the cis-trans system or the E,Z sequence rules to classify alkenes.
17. Predict the products of dehydrohalogenation, dehalogenation, and dehydration.
18. Propose synthetic routes to alkenes and alkynes via multi-step syntheses.
19. Predict products of additions, oxidations, and reductions of alkenes and alkynes.

### Methods of Assessing Outcomes:

The expected learning outcomes will be assessed via 8 quizzes and 12 exams.

## CHM 245L - Organic Chemistry I Laboratory

Basic techniques of separation and purification such as simple distillation, fractional distillation, steam distillation and extraction. Characterization methods including melting point, gas chromatography, infrared spectroscopy and classification tests. Introduction to modern organic synthesis with emphasis on miniscale techniques and methods of separation and purification.

### Prerequisite- Corequisite

Corequisite: CHM 245 Organic Chemistry.

Credits: 2

### Hours

4 Laboratory Hours

### Course Profile

#### Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Accurately record data and observations in a properly maintained lab notebook.
2. Construct a well-written lab report that concisely presents all the components of an experiment.
3. Separate and purify compounds by simple distillation, fractional distillation, steam distillation and

extraction.

4. Characterize compounds by melting point, gas chromatography, infrared spectroscopy and classification tests.

Methods of Assessing Outcomes:

The expected learning outcomes will be assessed via lab notebooks, lab reports and a written lab exam.

## CHM 246 - Organic Chemistry II

A continuation of CHM 245 Organic Chemistry I including spectroscopy and introduction to molecules of biological importance.

### Prerequisite- Corequisite

Prerequisite: CHM 245 Organic Chemistry I.

Corequisite: CHM 246L Organic Chemistry II.

Credits: 3

### Hours

3 Class Hours

### Course Profile

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply IUPAC rules of nomenclature to alcohols, arenes, ethers, phenols, aldehydes, ketones, carboxylic acids, esters, amines, carbohydrates, amino acids, and proteins.
2. Draw the structures of the above mentioned compounds given their names.
3. Outline synthetic routes to primary, secondary, and tertiary alcohols.
4. Show how oxidizing agents can be used to convert alcohols to aldehydes, ketones, and carboxylic acids.
5. Describe the conversion of alcohols to alkanes, alkyl halides, alkenes, ethers, esters, and alkoxides.
6. Use NMR data to propose structures for unknown organic compounds.
7. Explain how the Williamson synthesis is used to prepare ethers.
8. Identify the major product(s) in electrophilic aromatic substitutions.
9. Propose synthetic routes to substituted benzenes via multi-step pathways.
10. Use Grignard reagents in synthetic schemes that convert aldehydes and ketones to alcohols.
11. Describe the use of the Fischer esterification reaction to make esters from carboxylic acids.
12. Show how an amino group can be attached to an aromatic ring via the reduction of a nitroarene.
13. Devise synthetic routes to substituted arenes via the Sandmeyer reaction.
14. Draw and name the cyclic structures of monosaccharides.
15. Classify disaccharides and polysaccharides as reducing or nonreducing.
16. Draw and name the structures of peptides.
17. Determine the structure of a peptide given sequencing data.

Methods of Assessing Outcomes:

The expected learning outcomes will be assessed via 8 quizzes and 12 exams.

## CHM 246L - Organic Chemistry II Laboratory

A continuation of CHM 245L Organic Chemistry I Laboratory including an introduction to complex multi-step synthesis with emphasis on minicale techniques.

### **Prerequisite- Corequisite**

Prerequisites: CHM 245 Organic Chemistry I and CHM 245L Organic Chemistry I Laboratory.

Corequisite: CHM 246 Organic Chemistry II.

Credits: 2

### **Hours**

4 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Accurately record data and observations in a properly maintained lab notebook.
2. Construct a well-written lab report that concisely presents all the components of an experiment.
3. Separate and purify compounds by simple distillation, recrystallization, fractional crystallization and extraction.
4. Characterize compounds by melting point, thin layer chromatography, infrared spectroscopy and classification tests.

Methods of Assessing Outcomes:

The expected learning outcomes will be assessed via lab notebooks, lab reports and a written lab exam.

## CHM 290 - Forensic Toxicology

Application of the principles of forensic toxicology and the related forensic sciences within the scope of medical-legal investigation. Drug and poison analysis, examination of physical evidence and death investigation. Laboratory sessions will provide basic knowledge of forensic analysis utilizing microscopy, gas chromatography, thin layer chromatography and spectroscopy.

### **Prerequisite- Corequisite**

Prerequisite: CHM 120 Fundamental Chemistry or a semester of general chemistry or permission of instructor.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the role of poisons and drugs in the human body.
2. Understand the use of the gas chromatograph.
3. Determine the presence of drugs or poisons in body tissues, organs, or fluids.
4. Perform basic algebraic manipulations to relative to simple chemical calculations.
5. Perform mathematical manipulations such as unit analysis with proper attention to units and significant figures.
6. Use the concept of the mole in quantitative chemical calculations.
7. Balance chemical equations.
8. Calculate amounts of chemicals involved in poisonings and LD 50.
9. Calculate and utilize solution concentration units such as molarity.
10. Classify poisons and drugs.
11. Use concepts of pH in acidic and basic solutions.
12. Understand the use of the mass spectrometer.
13. Understand the ideal gas law and its application in poisonous gases.
14. Understand the use of liquid chromatography.

Methods of Assessing Outcomes:

The expected learning outcome will be assessed through the use of homework assignments and/or quizzes, chapter exams, and the final exam.

## **CHM 299 - Independent Study**

The student undertakes an independent project in his/her specialty under the guidance of a faculty member. Only one independent study course allowed per semester. Consideration may be given a project involving a work assignment.

### **Prerequisite- Corequisite**

Prerequisite: Department approval.

Credits: (1-4)

### **Hours**

(1-4 Class Hours), (1-4 Laboratory Hours)

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. State a scientific problem.
2. Develop a testable hypothesis.
3. Develop a null hypothesis.
4. Design experimental studies.
5. Collect and analyze data.
6. Make conclusions.

Methods of Assessing Outcomes:

The expected learning outcomes will be assessed through the use of homework assignments and/or quizzes, chapter exams, and the final exam.



## **CIV 105 - Introductory AutoCAD**

An introduction to computer aided drafting using AutoCAD. Instruction includes file management, basic drawing commands, creating, editing and manipulation of drawing elements, and dimensioning.

Credits: 2

### **Hours**

1 Class Hour, 3 Laboratory Hours.

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of the course the student will be able to:

1. Create and/or delete basic geometric entities such as lines, arcs, circles, points, chamfers, fillets.
2. Edit (trim, extnd, break) basic geometric entities.
3. Manipulate and/or copy existing geometry by moving, rotating, or mirroring it.
4. Use screen controls to redraw-pan, or zoom within a view of a model.
5. Verify various data about existing entities in order to properly analyze existing geometry.
6. Dimension and label drawings.
7. Save and/or recall file properly.

## **CIV 113 - Engineering Drawing I w/CAD**

An introductory course in the fundamentals of engineering drawing and the basics of Computer Aided Drafting (CAD). Manual drafting techniques are integrated with extensive use of AutoCAD. Topics include use of the drawing instruments, geometric construction, freehand sketching, orthographic projection, sectional and auxiliary views and proper dimensioning techniques. CAD topics include file management; command structure; creating, editing, and manipulating drawing elements; dimensioning. Students will gain an understanding of engineering drawing concepts by applying them in both manual drafting and AutoCAD assignments.

Credits: 2

### **Hours**

1 Class Hour, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Be aware of the requirements of modern graphic language and be able to apply these requirements through both manual and CAD drafting techniques.
2. Understand and use professional language including abbreviations, specifications, and terminology associated with the development of working drawings.
3. Use both the Architect's and Engineer's Scale in the development of both manual and CAD drawings.
4. Use board-drafting tools in the completion of engineering drawings.
5. Sketch and construct orthographic projections, sectional views, and 3D drawings using manual drafting techniques.
6. Use proper dimensioning techniques in the development of both manual and CAD drawings.
7. Use AutoCAD including an understanding of menu options, status window, prompt line, history line, dialogue boxes, etc. in the completion of multiple types of CAD drawings.

8. Create, edit, and plot AutoCAD drawings.
9. Construct a working drawing complete with border, scale, details, titles, etc. using manual or CAD drafting techniques.

## **CIV 114 - Civil Drafting w/CAD**

An introduction to large scale mapping as used in highway and site design. Laboratory exercises include preparation of site plans, boundary surveys, and road plans. Laboratory exercises make extensive use of bearings and azimuths for line direction and location utilizing Cartesian Coordinates, elevation is represented by contours and profiles.

### **Prerequisite- Corequisite**

Prerequisite: CIV 113 Engineering Drawing I w/CAD and MAT 096 Elementary Algebra and Trigonometry or equivalent.

Credits: 2

### **Hours**

1 Class Hour, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Represent direction by bearings and azimuths.
2. Use coordinates for mapping.
3. Be able to read and understand topographic maps.
4. Represent relief using contours and digital models.
5. Represent relief using contours. Use maps to measure distance and area.
6. Map linear facilities using plan and profile drawings.
7. Using CAD to facilitate map preparation.
8. Have an appreciation of the basic structure of geographic information systems (GIS).

## **CIV 119 - Architectural Drawing w/CAD**

Fundamentals of architectural drafting including floor plans, elevations, sections, details, schedules, plot plans, plumbing layouts, electrical layouts. Emphasis on residential drawings, instruction in the use of Architectural Desktop for the above types of drawings. Drawing assignments done both manually and using AutoCAD.

### **Prerequisite- Corequisite**

Prerequisite: CIV 113 Engineering Drawing I w/CAD.

Credits: 2

### **Hours**

1 Class Hour, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of this Course:

Upon successful completion of this course the student will be able to:

1. Be aware of the considerations in the preliminary planning of a residence.
2. Understand the basic framing techniques and typical details for residential structures.
3. Have knowledge of materials and terminology used in residential construction.
4. Create the following architectural working drawings using both board drafting tools and the college's Architectural CAD software: Floor Plans, Basement/Foundation Plans, Section Views, Elevations, Site Plans, etc.
5. Be aware of architectural drafting conventions including common material symbols, appropriate lineweights, and level of detail required on various drawings.
6. Be proficient in the use of the college's architectural CAD software for creating the above residential plans.
7. Create basic three dimensional models of a residential structure using the college's Architectural CAD software.
8. Use proper dimension techniques for architectural working drawings.
9. Construct an architectural working drawing complete with border, scale, details, titles, etc. using manual or CAD drafting techniques.
10. Understand how to incorporate energy efficient design into residential structures.

## **CIV 124 - Mechanics**

Instruction will be directed to the study of static force systems and equilibrium as applied to civil engineering structures. Topics of study will include: force distribution, moments, system equilibrium, free-body diagrams, centroids, moments of inertia.

### **Prerequisite- Corequisite**

Corequisite: MAT 130 Applied Algebra and Trigonometry.

Credits: 3

### **Hours**

3 Class Hours;

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Understand, compute and resolve forces as vectors into concurrent force systems, parallel force systems, and non-concurrent force systems.
2. Understand moments and couples.
3. Understand and apply Varignon's Theorem.
4. Understand and solve problems in static equilibrium, including:
  - a. Computation of beam reactions
  - b. Calculate the magnitude of forces in truss members
  - c. Calculation of pin reactions in pin connected frames
5. Sketch free-body diagrams.
6. Understand and calculate center of gravity and the centroid of complex shapes.
7. Understand and calculate the moment of inertia of complex figures.

## **CIV 136 - Construction Methods & Management**

Principles of construction methods and management used in the construction industry including contracts, plans, specifications, methods, planning and scheduling, economics and safety. Field trips to various local engineering and/or architectural firms/local construction sites.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Have an understanding of the construction industry and the parties (owner, architect, engineer, contractor, subcontractors, construction manager, etc.) involved in the construction process.
2. Calculate % swell, % shrinkage, shrinkage factor, and load factor for use in earthwork computations. Students will have an understanding of soil volume changes and resulting implications of those changes to construction costs.
3. Calculate and use the productivity rates for five types of heavy equipment including the backhoe, shovel, dragline, dozer, and loader. In addition, students will have the ability to make an informed decision regarding the choice of equipment to be used for specific construction projects.
4. Understand various project planning and scheduling methods including the development of bar charts, arrow notation, and precedent notation.
5. Understand the critical path method (CPM) with implications for time and budget control within construction projects.
6. Calculate equipment costs including ownership and operating expenses with an understanding for use in the estimating of equipment expenses for construction projects.
7. Understand project safety and the importance of compliance to safety standards during the construction process.
8. Collaborate effectively with team members for purposes of research and class presentations of construction projects.
9. Appreciate the contractor's responsibilities involved in constructing LEED Certified buildings.

## **CIV 159 - Architectural Drafting I w/CAD**

Development of working drawings for use in residential type construction. Plot plans, floor plans, elevations, details, schedules, electrical layouts. Lecture topics include construction materials, specifications, and methods. Instruction in the use of Architectural Desktop for the above types of drawings. Drawing assignments are done both manually and using AutoCAD.

**Prerequisite- Corequisite**

Prerequisite: CIV 105 Introductory AutoCAD.

Credits: 3

**Hours**

2 Class Hours; 3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:



1. Understand the various uses of line types.
2. Make drawings accurately to scale.
3. Draw orthographic projections.
4. Draw sectional views.
5. Be aware of considerations in the preliminary planning of a residence.
6. Understand the basic framing techniques and typical details for residential structures.
7. Have knowledge of materials and terminology used in residential construction.
8. Create the following architectural working drawings using both board drafting tools and the college's Architectural CAD software: Floor Plans, Basement/Foundation Plans, Section Views, Elevations, Site Plans, etc.
9. Be aware of architectural drafting conventions including common material symbols, appropriate lineweights, and level of detail required on various drawings.
10. Be proficient in the use of the college's architectural CAD software for creating the above residential plans.
11. Create basic three dimensional models of a residential structure using the college's Architectural CAD software.
12. Use proper dimension techniques for architectural working drawings.
13. Construct an architectural working drawing complete with border, scale, details, titles, etc. using manual or CAD drafting techniques.

## **CIV 201 - Surveying I**

This course introduces the basic concepts of plane surveying as well as measurement by global position systems. Class instruction covers the theory and application of measurement science. Laboratory exercises develop skill in the use and care of surveying equipment.

### **Prerequisite- Corequisite**

Prerequisite: CIV114 Civil Drafting w/CAD; MAT130 Applied Algebra and Trigonometry.

Credits: 4

### **Hours**

2 Class Hours, 6 Laboratory Hours;

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Understand and apply the theory of measurement used in plane surveying.
2. Understand and use the basic mathematics required for plane surveying calculations.
3. Express direction by bearings and azimuths.
4. Keep field notes and operate surveying instruments for a survey crew.
5. Reduce level notes.
6. Compute closure, adjust, and calculate the area of a closed traverse.
7. Operate and care for the following types of surveying equipment: surveyor's tape; compass; automatic level; transit; theodolite; and total station.
8. Prepare CAD maps based on the student measurements.
9. Work effectively as a member of a survey crew.

## **CIV 202 - Surveying II**

This course covers the basics of horizontal and vertical curve geometry as used in highway design before undertaking the study of more advanced surveying topics including: use of mass diagrams to track earthwork on highways, control surveying mathematics; universal coordinate systems; and boundary location. Laboratory exercises will vary between CAD drawings and outdoor exercises.

### **Prerequisite- Corequisite**

Prerequisite: CIV 201 Surveying I.

Credits: 4

### **Hours**

3 Class Hours, 3 Laboratory Hours;

### **Course Profile**

Learning Outcomes of this Course:

After successful completion of the course the student will be able to:

1. Have a thorough understanding of the geometry of horizontal and vertical curves.
2. Use CAD to prepare plan and profile drawings.
3. Understand the calculations used for spiral curves.
4. Understand and apply mathematical methods for establishing location in non-Euclidian space.
5. Have a basic understanding of control surveying techniques and calculations.
6. Have a basic appreciation and understanding of global positioning systems (GPS).
7. Understand the fundamentals of geographic information systems (GIS).

## **CIV 217W - Materials Testing**

Civil Engineering projects require knowledge of many materials; this course introduces properties and testing of some of the most common including: Portland cement concrete, aggregates, cement admixtures, bituminous materials, and ferrous metals. Additional topics include: design and proportioning of concrete mixes; placing and curing of concrete; and deformation measurement of materials under stress. Students will learn seven concrete sampling techniques required by American Concrete Institute and may elect to take the test for Concrete Field Testing Technician near the end of the semester. This is a writing emphasis course.

### **Prerequisite- Corequisite**

Corequisite: CIV 219 Strength of Materials.

Credits: 3

### **Hours**

2 Class Hours, 3 Laboratory Hours;

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of the course students will be able to:

1. Understand the purpose and importance of inspection and testing on construction projects.
2. Have knowledge of the properties, qualities, and specifications for aggregates.
3. Be aware of the types of and properties of portland cement.
4. Understand the properties of portland cement concrete and requirements for quality concrete.

5. Know the proper procedures for mixing, placing, and curing concrete.
6. Understand the basics of concrete mix design.
7. Understand the importance of specifications for materials and procedures used in concrete construction.
8. Have a knowledge of bituminous materials including asphalt cement, liquid asphalt, emulsified asphalt.
9. Understand the types of bituminous pavements.
10. Perform seven field testing procedures used in concrete construction: temperature, sampling, slump, entrained air by pressure meter, entrained air by the volumetric meter, preparation of samples for strength testing, unit weight.
11. Understand the requirements of the ASTM test specifications for the above seven field test procedures.
12. Work in teams to perform lab testing on concrete aggregates and portland cement concrete.
13. Prepare professional quality laboratory reports.
14. Analyze lab results and write about data trends, observations, and conclusions.

## **CIV 219 - Strength of Materials**

Behavior of materials due to axial force, shear force, and moments can be quantified by stress and strain. Students will learn how to calculate stress and strain, apply Hooke's Law, draw shear and moment diagrams, calculate beam deflection, identify points of maximum and minimum stress and then use this information to select structural members.

### **Prerequisite- Corequisite**

Prerequisite: CIV 124 Mechanics (Statics) and MAT 130 Applied Algebra and Trigonometry.

Credits: 4

### **Hours**

4 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course students will be able to:

1. Have an understanding of the fundamental behavior of materials subject to axial force, shear, bending moment, and torsion.
2. Understand the relationships between stress and strain and be able to apply Hooke's Law.
3. Understand the concept of safety factors and allowable stresses.
4. Solve for reactions and draw shear and moment diagrams for statically determinate beams.
5. Calculate stresses due to axial force, shear force, bending moment and torsion.
6. Solve for beam deflections using the moment-area method.
7. Calculate combined stresses from combinations of axial plus bending, biaxial bending, and eccentric loadings.
8. Have an understanding of combined normal and shear stresses and be able to compute by applying Mohr's Circle.
9. Solve for reactions, shears and moments of statically indeterminate beams.

## **CIV 224 - Reinforced Concrete Design**

Fundamental theory and principles for design of reinforced concrete by the strength method. Design, analysis and detailing of rectangular beams, T-beams, slabs and columns. Integrated design and detailing projects.

### **Prerequisite- Corequisite**

Prerequisite: CIV 219 Strength of Materials.

Credits: 3

### **Hours**

2 Class Hours, 3 Laboratory Hours;

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Analyze and design rectangular beams, slabs, and T-beams for compression and T-beams for flexure using the strength method.
2. Design shear reinforcement for beams.
3. Calculate development lengths, splices, and bar cutoffs for tension bars.
4. Design a cantilever retaining wall.
5. Have an understanding of the use of current design specifications including the most up-to-date version of ACI-318.
6. Be familiar with the various types of concrete framing used in buildings and bridges.
7. Be familiar with the current industry standards for detailing reinforced concrete members.

## **CIV 226 - Structural Steel Design**

Fundamental theory and principles of design of simple steel structures using LRFD Method. Design, investigation and detailing of beams, columns, tension and compression members and their connections. Composite beams. Includes an integrated design and detailing project. Introduction to use of structural analysis/design computer program.

### **Prerequisite- Corequisite**

Prerequisite: CIV 219 Strength of Materials.

Credits: 3

### **Hours**

2 Class Hours, 3 Laboratory Hours;

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Be familiar with the AISC Steel Construction Manual.
2. Understand the concepts of structural design by the Load and Resistance Factor Method and the Allowable Stress Design Method, and will understand the differences between the methods.
3. Analyze and design steel tension members.
4. Analyze and design steel compression members.
5. Analyze and design steel beams.



6. Design structural steel connections using bolting or welding.
7. Prepare detail drawings of structural steel connections.
8. Create fabrication drawings for steel members.
9. Design continuous steel beams using structural analysis software.

## **CIV 231 - Estimating & Construction Planning**

A systematic approach to estimating building project costs. Semester long project will include building a cost estimate of a commercial building. Microsoft EXCEL spreadsheet will be used as an estimating tool.

### **Prerequisite- Corequisite**

Prerequisite: CIV 119 Architectural Drafting w/CAD and CST 106 Computers in Technology.

Credits: 2

### **Hours**

1 Class Hour, 3 Laboratory Hours;

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Have a sound foundation and knowledge of various aspects related to the construction estimating and bidding process including contracts, specifications, bonding requirements, types of estimates, estimate organization, overhead, contingencies, and profit.
2. Have the ability to use modern computer estimating tools including Microsoft Excel and Means Costworks software.
3. Have the ability to complete material takeoffs and associated material, labor, and equipment costs for building construction projects.
4. Have the ability to prepare a complete construction bidding package including the quantity takeoffs and cost estimate for a small commercial building.

## **CIV 237 - Hydraulics/Storm Water Management**

The principles of hydraulics and hydrology are first covered and then followed by application of these principles to the solution of stormwater runoff problems. Runoff quantity is calculated by the Rational and Win-TR55 methods and then used to size culverts and stormsewer systems. Manning's Equation is used for backwater analysis when establishing outlet control in culverts.

### **Prerequisite- Corequisite**

Prerequisite: CIV124 Mechanics (Statics)

Credits: 3

### **Hours**

2 Class Hours, 3 Laboratory Hours;

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Understand and be able to apply basic fluid mechanics.
2. Understand the hydrologic cycle and its relationship to storm runoff.
3. Compute storm runoff using the Rational and the SCS TR-55 Methods.
4. Calculate storm sewer flows.
5. Correctly size storm sewers.
6. Correctly size culverts.
7. Understand the desirability of using mitigation techniques such as on site detention basins to reduce storm flow.

## **CIV 238 - Architectural Design & Building Materials w/CAD**

Design and detailing of commercial buildings including site considerations, space requirements, layout planning, building materials, construction methods, construction details, working drawings. Emphasis on individual creativity. Semester project. Technical oral presentation. Use of AutoCAD and Architectural Desktop for drawings.

### **Prerequisite- Corequisite**

Prerequisite: CIV 119 Architectural Drafting w/CAD.

Credits: 3

### **Hours**

2 Class Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Have a basic knowledge of considerations involved in the preliminary design of small commercial buildings.
2. Understand the significance and purpose of building codes, and have a knowledge of the major topics covered in building codes.
3. Understand light gage steel framing construction and typical associated details.
4. Understand structural steel frame construction, have knowledge of material choices and typical connection details.
5. Be aware of foundation choices and details for small commercial buildings.
6. Understand the materials used in masonry construction and have a knowledge of typical details used in commercial buildings.
7. Have a knowledge of materials used in wood construction and understand framing methods and typical details used in timber frame construction.
8. Have an understanding of the materials and building methods used in reinforced concrete construction.
9. Use the college's architectural CAD system to create a three dimensional building model.
10. Use the college's architectural CAD system to create construction drawings for a commercial building, including floor plans, foundation plans, sections and elevations.
11. Work in teams for the development of a design project for a small commercial building.
12. Present the proposed design to the class, with oral explanations and sketches of the building concept.
13. Appreciate sustainable design and construction technologies, and understand the basic factors of LEED Certification.

## **CIV 240 - Soil Mechanics**

Topics include: soil origin and nature; soil density, gradation and compaction; soil water content and reaction to frost; stress distribution in soil, soil shear strength; and pile bearing strength. Laboratory instruction is based on ASTM and AASHTO specifications particularly as they are used to classify and predict soil behavior.

### **Prerequisite- Corequisite**

Prerequisite: CIV 219 Strength of Materials.

Credits: 3

### **Hours**

2 Class Hours, 3 Laboratory Hours;

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Have knowledge of soil types.
2. Perform soil gradation testing and create gradation curves.
3. Classify soils for engineering uses.
4. Provide soil descriptions by visual and manual examination of soil samples.
5. Have an understanding of basic engineering properties of soils such as Atterberg Limits, relative density, and gradation.
6. Solve problems involving weight and volume relationships of soils.
7. Have an understanding of soil compaction, be able to perform compaction testing in the lab, and be able to create moisture-density curves.
8. Conduct field density testing by the sand cone.
9. Have an understanding of the flow of water through soils and be able to conduct lab permeability tests.
10. Have an understanding of the common methods of soil exploration and obtaining soil samples.
11. Calculate subsurface stresses in soils.
12. Calculate expected consolidation settlements in soils.
13. Understand the concepts of soil shear strength.
14. Perform soil strength testing by the unconfined compression test and the direct shear test, and be able to analyze the results to determine strength parameters.
15. Understand the basics of shallow foundation design.

## **CIV 250 - MicroStation and Inroads Applications**

This course will instruct students in the use of Bentley's Microstation and InRoads computer-aided design software programs. InRoads is a CAD program designed specifically for highway design, in addition to other civil, site, and transportation applications. Microstation is the basic CAD program that runs in conjunction with InRoads. Students will learn to use the software for a complete highway design. This includes modeling the existing terrain, defining the highway alignment, creating roadway templates and profiles, computing earthwork volumes, and creating the final plan sheets. A highway design project will be assigned for the laboratory work.

**Prerequisite- Corequisite**

Prerequisites: CIV 201 Surveying I or instructor approval.

Corequisites: CIV 202 Surveying II

Credits: 2

**Hours**

1 Class Hour, 3 Lab Hours;

**Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Use Microstation to create two-dimensional drawings.
2. Dimension drawings using Microstation commands.
3. Have an understanding of Microstation groups, cells, and references.
4. Have an understanding of symbology, features, and styles as used by InRoads.
5. Create a digital terrain model from survey data using InRoads.
6. Create a horizontal alignment and generate a profile along the alignment using InRoads.
7. Create vertical alignments using InRoads.
8. Create typical sections or templates for the proposed highway and then define the road by applying the typical sections along the centerline.
9. Create a three-dimensional model of a proposed highway using the defined horizontal alignment, vertical alignment and typical sections.
10. Extract roadway cross sections and perform earthwork computations on a proposed road using the InRoads software.
11. Annotate profiles, cross sections, and alignments using InRoads.
12. Plot Microstation and InRoads drawings.

**CIV 299 - Independent Study**

The student undertakes an independent project in his/her specialty under the guidance of a faculty member. Only one independent course allowed per semester. Consideration may be given to a project involving a work assignment.

**Prerequisite- Corequisite**

Prerequisite: Departmental approval.

Credits: (1-4)

**CLT 110 - Introduction to Clinical Laboratory Technology**

Overview of medicine and the field of Clinical Laboratory Technology. Designed to acquaint the student with the clinical laboratory and the professional role of laboratory personnel within health care delivery system. Review of safety issues connected with the clinical laboratory, introduction to values, ethics, and interpersonal communication in these settings.

Credits: 1



**Cross-listed**

MLT 110

**Hours**

1 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate appropriate profession behavior.
2. Identify the health care providers in hospitals and clinics and describe their academic preparation and roles on the healthcare team.
3. Describe the various hospital departments and their major functions.
4. Describe the organizational structure of the clinical laboratory department.
5. Discuss the roles of the clinical laboratory personnel and their qualifications for these professional positions.
6. List the most common types of laboratory procedures performed in the various sections of the clinical laboratory department.
7. Describe the roles of federal and state regulations on testing in the clinical laboratory.
8. Identify policies and procedures for maintaining laboratory safety.
9. Identify and discuss the modes of transmission of infection and methods for prevention.
10. Identify and properly label biohazardous specimens.
11. Describe electrical, chemical, radiation and biological hazards and fire safety procedures used in hospitals, including the clinical lab.
12. Explain basic types of isolation and exposure control techniques.
13. Discuss in detail the standard precautions outlined by the Centers for Disease Control (CDC).
14. Discuss in detail and perform proper infection control techniques, such as hand washing, gowning, gloving, masking, and double-bagging.
15. Explain the roles of temperament and communication style in interpersonal and professional relationships.
16. Distinguish between values and ethics.
17. Discuss and explain the importance of maintaining patient confidentiality.
18. Define professionalism and give examples of professional behavior.
19. Describe and discuss the major points of the Patient's Bill of Rights as it applies to clinical laboratory personnel.
20. List the causes of stress in the work environment and discuss the coping skills used to deal with stress in the work environment.
21. Differentiate between values and ethics.
22. Apply ethical standards to potential situations in the healthcare setting.
23. Explain basic concepts of communication and demonstrate professional communication.

**CLT 120 - Clinical Laboratory Techniques and Practices**

Introduction to basic skills and equipment used in the clinical laboratory. Orientation to elements of quality control, laboratory mathematics, clinical assay techniques, safety, and collection and handling of specimens for laboratory analysis.

**Prerequisite- Corequisite**

Prerequisite: CLT 110 Introduction to Clinical Laboratory Technology or approval of CLT advisor.

Credits: 1

**Cross-listed**

MLT 120

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify and use laboratory glassware.
2. Utilize appropriate medical terminology.
3. Name and demonstrate the function of the components of the compound microscope.
4. Perform common laboratory mathematical calculations.
5. Describe the types of patient specimens that are analyzed in the clinical laboratory.
6. Demonstrate understanding of requisitioning, specimen transport and specimen processing.
7. Demonstrate understanding of quality assurance.
8. Discuss the function of hematology, chemistry, microbiology, urinalysis, immunology and immunohematology labs in regard to: (a.) type of specimen analyzed (b.) type of testing performed.

## **CLT 200 - Histological Techniques**

An introduction to the histologic techniques used in the clinical laboratory. Course content includes preparation, fixation, embedding, sectioning, mounting, and staining of tissues for the purpose of microscopic examination. Also includes evaluation of stained tissues preparations and identification of common cellular structures, laboratory safety and review of relevant regulations.

**Prerequisite- Corequisite**

Prerequisite: BIO 131 Human Biology I and approval of the CLT advisor.

Credits: 1

**Cross-listed**

MLT 200

**Hours**

1 Class Hour, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate a fundamental understanding of the morphology of the microscopic anatomy of the human body and correlate it with general function.
2. Relate the functions of those cells, tissues, and organ systems to their structures.
3. Practice histologic techniques used in the clinical laboratory, including preparation, fixation, embedding, sectioning, mounting, and staining of tissues for the purpose of microscopic examination.
4. Perform basic evaluation of quality of stained tissues preparations.
5. Identify the basic tissues, the major organs, and the cells that compose them, when shown glass slides and photomicrographs.
6. Describe variations from normal histological structure (histopathology).
7. Adhere to laboratory safety practices and regulations relevant to the clinical histology laboratory.

## **CLT 201W - Hematology and Coagulation**

A comprehensive study of the hematopoietic and coagulation systems, including the normal physiology and classic pathology of both systems. Emphasis is on the theory, performance, interpretation and clinical significance of routine and special test procedures.

### **Prerequisite- Corequisite**

Prerequisite: BIO 131 Human Biology I and approval of the CLT advisor.

Credits: 4

### **Cross-listed**

MLT 201W

### **Hours**

3 Class Hours, 4 Laboratory Hours

### **Note**

This course is designated as a writing emphasis course.

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the general principles and techniques of basic manual hematology procedures.
2. Perform a CBC on an instrument and review and interpret data from the instrument.
3. Perform peripheral blood smear differentials.
4. Describe and recognize cellular morphology changes associated with various disease states.
5. Integrate hematology panel results with other patient data through the interpretation of case studies.
6. Define the process of hemostasis, explain how the coagulation laboratory accesses it, and be able to interpret the laboratory tests used in that assessment.

## **CLT 202 - Urinalysis/Body Fluids**

A study of the physiologic processes which result in the formation of urine and body fluids. Emphasis on the analysis of fluids and interpretation of the clinical significance of test results.

### **Prerequisite- Corequisite**

Prerequisite: BIO 131 Human Biology I and approval of the CLT advisor.

Credits: 1

### **Cross-listed**

MLT 202

### **Hours**

.75 Class Hours, .75 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain the collection and handling procedures for urine and body fluids.
2. Understand the observational and physical measurements of urine and body fluids required by the clinical laboratory.
3. Describe the chemical screening methods used on urine and other fluids analyzed by the urinalysis department.
4. Describe the preparation and performance of a urine microscopic analysis.
5. Identify commonly seen urinary crystals, cells and casts.
6. Identify the primary functions of the major components of the kidney and urinary tract.
7. Know the structure and function of the nephron.
8. Correlate urinalysis test data with specific disease states and state the clinical significance of test results.
9. Describe the performance and clinical significance of a CSF and other body fluid cell count.

## **CLT 204 - Fundamental Phlebotomy**

Training and experience in the practice of phlebotomy, teaching students to recognize and use blood collection equipment, practice standard precautions, and perform procedures of routine venipuncture and skin puncture.

### **Prerequisite- Corequisite**

Prerequisite: BIO 131 Human Biology I, BIO 101 Introduction to Anatomy and Physiology, or approval of the CLT advisor.

Credits: 1

### **Cross-listed**

MLT 204

### **Hours**

1 Class Hour

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe safety measures that should be followed at all times by a phlebotomist when collecting a patient's specimen.
2. Identify the veins of the arm on which phlebotomy is performed.
3. Differentiate between serum and plasma.
4. Identify the most common additives used in blood collection, and explain their reasons for use.
5. Identify the evacuated tube color associated with the most commonly used additives.
6. List and select the types of equipment needed to collect blood by routine venipuncture and capillary puncture.
7. Identify special precautions necessary during blood collections by venipuncture and capillary puncture.
8. List the supplies that should be carried on a phlebotomist's tray.
9. Identify routine sites for venipuncture and capillary puncture.
10. Differentiate between sterile and antiseptic techniques.
11. Describe and demonstrate the steps in the preparation of a puncture site.
12. List the effects of tourniquet, hand squeezing and heating pads on capillary puncture and venipuncture.
13. Recognize proper needle insertion and withdrawal techniques including direction, angle, depth,



and aspiration.

14. Describe the correct procedure for capillary collection methods on infants and adults.
15. Name and explain frequent causes of phlebotomy complications.
16. Describe signs and symptoms of physical problems that may occur during blood collection.
17. List the steps necessary to perform a venipuncture and/or capillary puncture in chronological order.
18. Describe the proper manner for greeting and interacting with a patient.
19. Explain the major points in interviewing a patient or a patient's representative in preparation for obtaining specimens.
20. Perform a competent/effective venipuncture on a mannequin and on a patient.
21. Perform a competent/effective capillary puncture on a mannequin and on a patient.
22. Describe instructions to be given to patients in preparation for routine venipuncture or capillary puncture.
23. Describe and discuss techniques for dealing with family and visitors during the blood specimen collection.

## **CLT 206 - Immunohematology**

An introduction to the field of blood banking, including the study of theoretical knowledge of blood groups and blood grouping, component and transfusion therapies, transfusion reactions, and allo- and auto-antibody formation. In laboratory sessions, the student performs ABO and Rh grouping, antibody identification, and compatibility testing.

### **Prerequisite- Corequisite**

Prerequisite: CLT 216 Immunology or approval of the CLT advisor.

Credits: 3

### **Cross-listed**

MLT 206

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Follow proper safety guidelines in the laboratory at all times.
2. Display appropriate professional behavior.
3. Demonstrate logical approaches to problem solving - selecting appropriate units and crossmatching them with unknown patient specimens.
4. Describe classic problems inherent to blood transfusion and the solutions currently in use.
5. Apply basic principles of genetics to immunohematology.
6. Apply basic principles of immunology to blood group serology.
7. Describe and perform the testing procedures performed in the clinical immunohematology laboratory, including Coombs' (antiglobulin) testing, ABO testing, Rh testing, other blood group testing, alloantibody screening, elutions, RBC autoantibody testing, compatibility testing, and traditional and gel technology.
8. Explain the process of donor selection, describe the processes of blood or blood component donation, including apheresis.
9. Explain the clinical significance of abnormal and disease states related to immunohematology,

including drug-induced red blood cell destruction, polyagglutination, transfusion reactions, and Hemolytic Disease of the Newborn (HDN) and list the procedures relevant to each.

10. Describe and perform transfusion test procedures, including procedures related to component therapy.

11. Discuss medicolegal aspects of bloodbanking and the medicolegal responsibilities of a immunohematologist.

## **CLT 207 - Clinical Chemistry**

Designed to cover principles, analytical methods, and clinical significance of clinical chemistry as performed in the medical laboratory. The relationship of physiochemical of body function in health and disease including the renal, liver, digestive, and respiratory systems. Emphasis on those clinical tests which evaluate the function of these systems related to metabolism, protein synthesis, pH, blood gases, electrolyte balance, enzymes, and hormones. Laboratory work includes the theory, operation and maintenance of the specialized and semi- and fully automated analytical instrumentation used to perform these tests. Emphasis will be placed on basic assays performed in most hospital labs, regardless of size.

### **Prerequisite- Corequisite**

Prerequisite: BIO 132 Human Biology II, CHM 146 Chemistry and permission of the CLT advisor.

Credits: 5

### **Cross-listed**

MLT 207

### **Hours**

3 Class Hours, 6 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the general principles and techniques of basic manual and automated chemistry procedures through performance, class discussion and examinations.
2. Correlate clinical chemistry data with normal and abnormal physiological states and identify the clinical significance of test results.
3. Perform clinical routine and special chemistry procedures within acceptable laboratory parameters.

## **CLT 208 - Pathogenic Microbiology**

An introduction to microorganisms of importance in human health and disease. Topics include the morphology, isolation, identification, and clinical significance of pathogens, the interrelationships of microorganisms and human hosts, and the prevention and control of infectious diseases. Emphasis on bacteriology; includes survey of mycology, parasitology and virology.

### **Prerequisite- Corequisite**

Prerequisite: BIO 131 Human Biology I.

Corequisite: CLT 209 Pathogenic Microbiology Laboratory or CLT 210 Diagnostic Microbiology Laboratory.

Credits: 3

**Cross-listed**

MLT 208

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discuss the history of microbiology and the significance of the microbial world.
2. Describe classification systems for organisms and apply that knowledge to microorganisms.
3. Summarize the basic principles of infection and resistance and their application to transmission of infectious disease.
4. Demonstrate an understanding of the biology of microorganisms, including microbial anatomy, genetics, metabolism, growth, and control of growth.
5. Explain the mechanisms employed for control of microbial growth and describe the various assays used to evaluate effectiveness of antimicrobial agents, including antibiotic sensitivity testing.
6. List the characteristics of representative organisms of clinical significance, including their significant disease states, target populations, means of transmission, means of prevention and/or treatment, virulence factors, identifying symptoms and organismal characteristics.

## **CLT 209L - Pathogenic Microbiology Laboratory**

An overview of the basic clinical microbiology techniques, including collection and processing of clinical specimens, media used for isolation and identification of organisms common to human flora, aseptic techniques, staining procedures, susceptibility testing, and isolation techniques. This course also includes a review of the main components and functions of the human immune system.

**Prerequisite- Corequisite**

Corequisite: CLT 208 Pathogenic Microbiology

Credits: 3

**Cross-listed**

MLT 209L

**Hours**

3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Follow proper safety guidelines in the microbiology laboratory at all times.
2. Demonstrate logical approaches to problem solving by identifying unknown cultures.
3. Describe the elements which comprise the immune system and summarize the mechanisms of the human immune system.
4. Discuss in general terms the biological mechanisms of immunizations, immunological screening for congenital infections, and evaluation of immune abnormalities.
5. Perform procedures in the laboratory using aseptic techniques, including selection of media, Gram

staining, isolating organisms, performing biochemical and serological identifications, antimicrobial susceptibility testing, evaluating smears, and culturing and evaluating cultures of human specimens.

## **CLT 210 - Diagnostic Microbiology Laboratory**

A comprehensive study of diagnostic methods for identification of normal and pathogenic microorganisms from clinical materials by appropriate laboratory techniques. Emphasis on cultural, microscopic and biochemical characteristics, chemical significance, collecting and processing of clinical specimens, diagnostic tests, and susceptibility tests.

### **Prerequisite- Corequisite**

Corequisite: CLT 208 Pathogenic Microbiology.

Credits: 3

### **Cross-listed**

MLT 210

### **Hours**

2 Class Hours, 4 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Follow proper safety guidelines in the microbiology laboratory at all times.
2. Demonstrate logical approaches to problem solving by identifying unknown cultures.
3. Perform all basic procedures generally done in the clinical microbiology laboratory using septic techniques, including selection of media, Gram staining, isolating organisms, performing biochemical and serological identifications, and antimicrobial susceptibility testing.
4. Evaluate cultures and direct microscopic examinations of human specimens to identify the host and microbial elements and to indicate the clinical significance of those elements.

## **CLT 214 - Specialized Phlebotomy**

Advanced techniques in collecting venous blood and capillary blood specimens. Topics include anatomy and physiology as related to specimen collection; properties of arterial blood versus venous blood; specialized collection equipment; specialized collection techniques; requisitioning, specimen transport and specimen processing, and quality assurance. Competency required in the performance of routine venipuncture and microblood drawing techniques.

### **Prerequisite- Corequisite**

Prerequisite: CLT 204 Fundamental Phlebotomy or permission of the CLT advisor.

Credits: 2

### **Cross-listed**

MLT 214

### **Hours**

2 Class Hours



## Course Profile

### Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify parts of the body according to their proximity to one of the body planes.
2. Identify the veins of the arms, hands, legs and feet on which phlebotomy is performed.
3. Explain the functions of the major constituents of blood.
4. Define hemostasis, and explain the basic process of coagulation and fibrinolysis.
5. Discuss the properties of arterial blood versus venous blood, and describe the difference in collection methods.
6. Describe the phlebotomist's role in collecting and/or transporting types of patient specimens which are analyzed in the clinical laboratory.
7. Identify the additives used in blood collection, and explain their reasons for use.
8. Identify the evacuated tube color associated with the additives.
9. Describe substances which can interfere in clinical analysis of blood constituents and ways in which the phlebotomist can help avoid these occurrences.
10. List and select the types of equipment needed to collect blood by a variety of techniques.
11. Identify potential sites for venipuncture and capillary puncture.
12. Identify alternate venipuncture collection sites and describe the limitations and precautions of each.
13. Describe the legal and ethical importance of proper patient/sample identification.
14. Describe the types of patient specimens that are analyzed in the clinical laboratory.
15. List the general criteria for suitability of a specimen for analysis.
16. List the circumstances that would lead to recollection or rejection of a patient sample.
17. Explain the importance of timed specimens, fasting specimens, and stat specimens.
18. Demonstrate understanding of requisitioning, specimen transport and specimen processing.
19. List the most common types of laboratory procedures performed in the various sections of the clinical laboratory department.
20. Describe the system for monitoring quality assurance in the collection of blood specimens.
21. Identify policies and procedures used in the clinical laboratory to assure quality in the obtaining of blood specimens.
22. Describe the laboratory criteria for identifying an appropriate request for specimen collection.
23. Relate legal responsibilities of the laboratory and phlebotomist to the need for physicians' requests for all specimen collection and testing.
24. Explain methods for processing and transporting blood specimens for routine and special testing within the hospital.
25. Explain methods for processing and transporting blood specimens for testing at reference labs.
26. Describe potential clerical and technical errors that may occur during specimen processing.
27. In regard to processing and transporting of blood specimens, describe the general effects of time on test quality and patient care.
28. Describe the conditions that must be met if blood specimens and laboratory tests are to be used as legal evidence.
29. Describe instructions to be given to patients in preparation for glucose tolerance tests, bleeding times and other procedures normally performed by the phlebotomist.
30. Discuss the importance of appearance and grooming for phlebotomists.
31. Define the different terms used in the medicolegal aspect for phlebotomy and discuss policies and protocol designed to avoid medicolegal problems.
32. Prepare an acceptable blood smear.
33. Recognize unacceptable blood smears.
34. Describe the purpose and procedure for performing bleeding times.

## **CLT 215 - Phlebotomy Practicum**

A practical application of phlebotomy techniques in a clinical laboratory setting or health care environment. The course focuses on safety, quality control, communication, interpersonal skills, and ethical considerations relating to patients. Clinical hours: 160 hours total.

### **Prerequisite- Corequisite**

Prerequisite: CLT 214 Specialized Phlebotomy and permission of the CLT advisor.

Credits: 5

### **Cross-listed**

MLT 214

### **Hours**

10.6 Clinical Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Successfully complete phlebotomy practicum objectives as listed in the Phlebotomy/MLT program policy manual.
2. Perform a minimum of 100 successful unaided venipuncture collections.
3. Describe and perform the correct procedure for capillary collection methods on infants and adults.
4. Observe and describe the organization and functioning of a typical clinical laboratory.

## **CLT 216 - Immunology**

An introduction to the basic concepts in immunology, including development of the immune system, innate immunity, immunoglobulin structure and genetics, antigen-antibody reactions, the major histocompatibility complex and antigen presentation, T cell receptors, T cell activation and effector functions, anergy and apoptosis, adhesion molecules, phagocytic cell function, immune responses to infections organisms and tumors, autoimmune diseases, allergies, immune deficiencies and AIDS.

### **Prerequisite- Corequisite**

Prerequisite: BIO 131 Human Biology I and BIO 132 Human Biology II.

Credits: 3

### **Cross-listed**

BIO 216 and MLT 216

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. List the elements of the immune system and describe their roles in defense.
2. Describe the structure of immunoglobulins and discuss the mechanism for generation of antibody diversity.

3. Discuss the nature of antigens and the characteristics that contribute to immunogenicity.
4. Describe the detail the normal and abnormal functions of the human immune response, including antigen recognition by T cell lymphocytes, development of T and B cells, T cell-mediated immunity, immunity mediated by B cells and antibodies, innate immunity and the complement system.
5. Explain the mechanisms and pathogenesis of disorders of the immune system, including immunodeficiencies, hypersensitivities, autoimmune disorders, and immunoproliferative abnormalities.
6. Describe clinical implications of the immune response such as immunization, transplant rejection, tumor immunity, and the immunity of pregnancy.
7. Evaluate clinical cases to apply information to assess diagnoses, symptoms, etiology, prognosis, possible treatments, and other case-related information.
8. Describe the lab tests performed used to assess immune function and status, and propose and evaluate clinical significance of appropriate laboratory testing results.

## **CLT 220L - Serological Techniques**

An introduction to the theory, practice, and clinical significance of serological testing for the clinical laboratory setting. Principles and practical applications of laboratory methods based on both traditional serological methods and molecular methods for detection and confirmation of disease.

### **Prerequisite- Corequisite**

Prerequisite: CLT 216 Immunology (or concurrently), BIO 131 Human Biology I and BIO 132 Human Biology II.

Credits: 1

### **Cross-listed**

MLT 220

### **Hours**

2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the mechanisms and performance of basic serological techniques and immunological assays.
2. Select the appropriate testing methodologies for evaluation of infectious disease, autoimmunity, hypersensitivity, and immune function.
3. Evaluate the clinical significance of clinical serology testing, including infectious disease, autoimmunity, hypersensitivity, and immune function.
4. Perform serological assays with the use of a written procedure, describing the methodology of each, its application in the clinical laboratory, and the clinical significance of results.
5. Follow appropriate safety procedures for each procedure performed and identify appropriate quality control results for each assay.

## **CLT 240 - Clinical Affiliation I**

Performance of procedures in clinical chemistry, immunology-serology, and immunohematology in an affiliated medical laboratory under direct supervision of medical laboratory personnel. Students will



conduct routine analytical procedures, develop their laboratory skills, and apply knowledge gained in the program. Emphasis is on specimen collection and processing, quality control, preventative maintenance, laboratory safety, and significance of abnormal results. Clinical hours: 40 hr/week for 4 weeks.

**Prerequisite- Corequisite**

Prerequisite: CLT 216 Immunology or CLT 220L Serological Techniques, CLT 206 Immunohematology, CLT 207 Clinical Chemistry and permission of the CLT advisor.

Credits: 4

**Cross-listed**

MLT 240

**Hours**

10.7 Clinical Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Process blood samples and other specimens for analysis.
2. Using established criteria, identify and evaluate patient specimens for acceptability, and take necessary actions if specimens are unacceptable.
3. Perform analytical tests on patient samples under the direct supervision of laboratory personnel in the relevant areas of the clinical laboratory.
4. Evaluate the clinical significance of laboratory results.
5. Recognize factors that affect procedures and results and take appropriate actions within predetermined limits.
6. State how quality control (QC) is monitored for the different procedures and instrumentation in the laboratory, how QC performance records are evaluated, and the proper corrective actions to be taken if QC values are outside established limits.
7. Perform preventive and corrective maintenance on laboratory equipment within predetermined limits.
8. List the quality assurance monitors used in each section of the laboratory.
9. Demonstrate professional conduct and interpersonal communication skills with patients, laboratory personnel and other health care personnel.
10. Demonstrate the methodologies used in technical training in the clinical laboratory at a level consistent with a new graduate.
11. Evaluate the technical training provided to the student in the clinical environment.
12. Demonstrate competence in performing tests, assays, and procedures as specified in the department policy manual.

## **CLT 241 - Clinical Affiliation II**

Performance of procedures in urinalysis, body fluid analysis, phlebotomy, hematology, and coagulation in an affiliated medical laboratory under direct supervision of medical laboratory personnel. Students will conduct routine analytical procedures, develop their laboratory skills, and apply knowledge gained in the program. Emphasis is on specimen collection and processing, quality control, preventative maintenance, laboratory safety, and significance of abnormal results. Clinical hours: 40 hr/week for 4 weeks.



**Prerequisite- Corequisite**

Prerequisites: CLT 201 Hematology and Coagulation, CLT 202 Urinalysis/Body Fluids, CLT 204 Fundamental Phlebotomy and permission of the CLT advisor.

Credits: 4

**Cross-listed**

MLT 241

**Hours**

10.7 Clinical Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Collect and process blood samples and other specimens for analysis.
2. Using established criteria, identify and evaluate patient specimens for acceptability, and take necessary actions if specimens are unacceptable.
3. Perform analytical tests on patient samples under the direct supervision of laboratory personnel in the relevant areas of the clinical laboratory.
4. Evaluate the clinical significance of laboratory results.
5. Recognize factors that affect procedures and results and take appropriate actions within predetermined limits.
6. State how quality control (QC) is monitored for the different procedures and instrumentation in the laboratory, how QC performance records are evaluated, and the proper corrective actions to be taken if QC values are outside established limits.
7. Perform preventive and corrective maintenance on laboratory equipment within predetermined limits.
8. List the quality assurance monitors used in each section of the laboratory.
9. Demonstrate professional conduct and interpersonal communication skills with patients, laboratory personnel and other health care personnel.
10. Demonstrate the methodologies used in technical training in the clinical laboratory at a level consistent with a new graduate.
11. Evaluate the technical training provided to students in the clinical environment.
12. Demonstrate competence in performing tests, assays, and procedures as specified in the department policy manual.

**CLT 242 - Clinical Affiliation III**

Performance of procedures in microbiology in an affiliated medical laboratory under direct supervision of medical laboratory personnel. Students will conduct routine analytical procedures, develop their laboratory skills, and apply knowledge gained in the program. Emphasis is on specimen collection and processing, quality control, preventative maintenance, laboratory safety, and significance of abnormal results. Clinical Hours: 40 hr/week for 2 weeks.

**Prerequisite- Corequisite**

Prerequisites: CLT 208 Pathogenic Microbiology, CLT 210 Diagnostic Microbiology Laboratory, and permission of the CLT advisor

Credits: 2

**Cross-listed**

MLT 242

**Hours**

5.3 Clinical Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Process blood samples and other specimens for analysis.
2. Identify and evaluate patient specimens using established criteria for acceptability, and take necessary actions if specimens are unacceptable.
3. Perform analytical tests on patient samples under the direct supervision of laboratory personnel in the relevant areas of the clinical laboratory.
4. Evaluate the clinical significance of laboratory results.
5. Recognize factors that affect procedures and results and take appropriate actions within predetermined limits.
6. State how quality control (QC) is monitored for the different procedures and instrumentation in the laboratory, how QC performance records are evaluated, and the proper corrective actions to be taken if QC values are outside established limits.
7. Perform preventive and corrective maintenance on laboratory equipment within predetermined limits.
8. List the quality assurance monitors used in each section of the laboratory.
9. Demonstrate professional conduct and interpersonal communication skills with patients, laboratory personnel and other health care personnel.
10. Demonstrate the methodologies used in technical training in the clinical laboratory at a level consistent with a new graduate.
11. Evaluate the technical training provided to students in the clinical environment.
12. Demonstrate competence in performing tests, assays, and procedures as specified in the department policy manual.

## **CLT 295 - Senior Seminar**

A review of knowledge base, didactic theory and clinical laboratory skills applicable to the medical lab. Preparation of professional portfolio and practice for certification examinations.

**Prerequisite- Corequisite**

Corequisites: CLT 240 Clinical Affiliation I, CLT 241 Clinical Affiliation II, CLT 242 Clinical Affiliation III.

Credits: 1

**Cross-listed**

MLT 295

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Recognize and utilize professionalism in all communications and submissions.
2. Create a personal portfolio, including a resume and cover letter suitable for clinical laboratory

employment.

3. Review of all content areas of clinical laboratory science.
4. Discuss strategies to navigate and succeed in a new career environment.
5. Review test taking strategies with computer adaptive testing.
6. Evaluate areas of strength and weakness in preparation for national certification examinations.

## **CLT 298 - Special Topics**

The study of a topic relevant to the Clinical Laboratory Technologies that is beyond the scope of the existing course offerings.

### **Prerequisite- Corequisite**

Prerequisite: Department approval.

Credits: 1-2

### **Cross-listed**

MLT 298

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define core concepts in the topic content area.
2. Discuss the relevance of the special topic to the field of Clinical Laboratory Technologies.
3. Demonstrate knowledge in the specified content area.
4. Differentiate the significance of the special topic.
5. Critique contrasting perspectives on the special topic.

## **CLT 299 - Independent Study**

An individual student project concerned with advanced work in a specific area of clinical laboratory technology. Independent study is concerned with material beyond the scope and depth of courses currently offered by the department. Conducted under the direction of a faculty member with approval by the department chairperson.

### **Prerequisite- Corequisite**

Prerequisite: Departmental approval.

Credits: 1-5

### **Cross-listed**

MLT 299

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate the ability to work independently to achieve a goal.
2. Demonstrate proficiency in the specific area of study.

## **COL 105 - Academic Planning Seminar**

An orientation course for first semester Liberal Arts and Human Services Division students. Students will reflect upon their personal and academic goals, develop learning strategies to enhance their academic success, and acquire a working knowledge of campus services and procedures.

Credits: 1

### **Hours**

1 Class Hour

## **COM 100 - Introduction to Mass Media**

This entry level course offers students an overview of the components of American mass media. The topics discussed in this course include medias history, structure, economics, regulations and dynamics, as well as the use of verbal and visual imagery. Radio, television, newspapers, magazines, film, and the closely related advertising and public relations field are surveyed.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the theory behind communication and the differences between intrapersonal, interpersonal, group, and mass communication theories.
2. Relate the theory and history of mass media to its continually changing role in global society.
3. Understand the differences between various methods of mass communication and how the role of technology has impacted those methods.
4. Explain the difference between various theories of mass communication and be able to explain how they inter-relate.
5. Possess the ability to produce a class project specifically highlighting one or more of the mass media methods covered in class.

## **COM 107 - Color Theory**

An introduction to the complex language of color, including the investigation of additive and subtractive systems in traditional and electronic applications. Students gain practical knowledge and visual sensitivity, giving them self-confidence in applying color to graphic presentations and three-dimensional forms. Emotional, symbolic, and cultural significance of color is explored through visual examples in historical and contemporary contexts. Knowledge applicable to painting, printmaking, illustration, website design, fashion design, interior design, landscape design, architecture, sculpture, and product design. Coursework includes experimentation with various materials, lectures, discussions, and presentations.



Credits: 2

**Cross-listed**

ART 107

**Hours**

1 Class Hour, 2 Studio Hours.

## **COM 112 - Beginning Photography**

Basics of camera design and operation, plus the fundamentals of photographic visualization and composition; line, form, color, light and shadow. Darkroom procedures, film processing, basic printmaking, selecting printing techniques. (Students can sign-out cameras and other supplies from the Communications Department thus reducing the overall costs for photo supplies).

Credits: 3

**Cross-listed**

ART 112

**Hours**

2 Class Hours, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Control camera, composition, and photographic approach (sharp focus, shallow D.O.F., blur motion, frozen image, etc.)
2. Make choices regarding film, paper, lens, filters and light to achieve a good quality photograph as a final product.

## **COM 115 - Writing for the Media**

This course is an introductory study of the elements necessary for all media-based writing. Students will be exposed to standard industry formats used in newspaper, magazine, public relations, print advertising, and internet media. Students will learn to work against a deadline as they would in a staff writer position.

**Prerequisite- Corequisite**

Prerequisite: Eng 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the history of written communication mediums and how they have both evolved and changed over time.

2. Describe the role that technology has played in changing how people gain access to written communication mediums over time.
3. Understand the basic functions and tasks of various positions in the advertising, news reporting, and public relations industries.
4. Have a working knowledge of basic grammatical and citational styles and formats when completing their assignments.
5. Produce a class project specifically highlighting one or more of the written communication mediums and print industries covered in class.

## **COM 116 - Writing for Broadcasting**

This course is an introductory study of the elements necessary for effective broadcast writing. Students will be exposed to standard industry formats used in radio, television, and film scripts. The class is a combination of technical writing and short scripts since broadcasting involves using words, technical instructions, and creative cues to convey messages. The class simulates the real world professions in broadcast writing that require writers to work with multimedia teams, talent, and technicians to create short scripts that communicate to multi-skilled creative teams.

### **Prerequisite- Corequisite**

Prerequisite: Eng 110 Written Expression I.

Credits: 3

### **Hours**

3 Class Hours;

## **COM 124 - Introduction to Computer Graphics**

The study of Visual Communication theory relating to applied arts fields such as, advertising and editorial design, animation, gaming, and web design. Students are introduced to vector and raster graphic programs on Macintosh computers, and learn how to develop initial thumbnail sketches into final design comprehensives. Other topics include digital photography, scanning, image manipulation, color correction, and typography.

### **Prerequisite- Corequisite**

Prerequisite: ART 105, BIT 108 or equivalent.

Credits: 3

### **Cross-listed**

ART 125

### **Hours**

2 Class Hours, 2 Studio Hours;

## **COM 125 - Introduction to Audio Theory and Production**

The particular focus of this entry level class will be the fundamentals of sound and recording, and the use of digital sound recording equipment. Students will conceptualize, record and produce a variety of forms of digital audio presentations including: advertisements, documentaries, interviews, as well as television and film production sound. The successful student will be well versed with Adobe Audition sound editing and creation programs and their applications. Additionally, there is a strong course emphasis on creating sound and sound effects designed for use in Foley Science, or the art of adding sound to film.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the fundamental principles behind the perception of sound and its effect on the human sense of hearing.
2. Discern the differences between analog and digital methods used to record sound throughout the 20th and 21st centuries and be able to explain them.
3. Know the difference between various digital audio formats and the role of compression/decompression algorithms (codecs) in each of them.
4. Possess the ability to record their own digital audio files, either in the studio or in the field, and be able to export their files to a PC or Macintosh-based workstation.
5. Gain a fundamental understanding of digital audio editing software (specifically, Adobe Audition) and be able to produce short projects of varying length using the digital audio files they have recorded over the course of the class.

## **COM 130 - Introduction to Video Theory and Production**

This entry level course introduces student to single-camera video production techniques; including operation of digital video cameras and recorders, as well as the basic usage of sound and lighting. Students will also be instructed on the use of non-linear editing equipment.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Possess a working knowledge of the fundamental principles of image composition and visualization, and how images are captured in the medium of digital video.
2. Understand video as a time-based multimedia format and be able to explain how the theory of intermittent motion applies to video capture.

3. Understand the role of proper lighting and be able to follow and practice standard safety protocols when working individually or in a group setting.
4. Explain the different roles of single-system sound and dual-system sound and be able to incorporate each into their individual video productions.
5. Produce a series of short individual video projects that creatively highlight the technical lessons and topics covered in class.
6. Possess the ability to produce short individual video projects using a digital non-linear editing system.

## **COM 145 - Contemporary Film Analysis**

Topics covered within the class are cinematography, narrative vs. non-narrative structure, symbolism, genre, realism vs. expressionism, composition, and editing style. Course work consists of analysis of contemporary issues through screening and discussion of film/cinema work from numerous historical periods.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Produce a cohesive written discourse analyzing specific aspects of a motion picture production relative to a specific topic of study.
2. Understand the fundamental differences between analyzing specific aspects of a motion picture and simply reviewing or summarizing its major plot points.
3. Recognize and identify different styles of filmmaking and how these styles have changed over the 20th and 21st centuries.
4. Draw parallels between narrative storytelling styles and techniques in film as well as in other communication mediums (i.e. - literature).
5. Demonstrate a working ability to identify contemporary social issues and themes presented by each of the filmmakers and assess its impact on the narrative of the selected film.

## **COM 150 - Public Relations**

This course is designed to provide the communications major with a clear picture of the functions of the public relations industry and cite practical applications of public relations principles. Practical examples will be used with emphasis on communications technology presently used throughout the world.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:



1. Describe the professional function of the public relations industry and its effect on society.
2. Understand the historical significance of several successful and unsuccessful public relations campaigns throughout the 20th and 21st centuries.
3. Possess the ability to create public documents and issue them via specific mass media forms to the general public.
4. Gain specific knowledge on how technology has changed the way that the public relations industry as a whole communicates with itself and the general public as a whole.
5. Work as part of a group problem solving team in response to a specific real-world example of a public relations campaign.

## **COM 154 - Media and Society**

An in-depth examination and analysis of the impacts and effects of the mass media upon society and the converse societal influences upon the media. Includes such issues as media concentration, portrayal of violence, stereotyping, the public's right to know, among others.

### **Prerequisite- Corequisite**

Prerequisite: COM 100 or SOS 110.

Credits: 3

### **Cross-listed**

SOS 155

### **Hours**

3 Class Hours;

## **COM 200 - Image Theory for Film, Photography, and Television**

Study of important theories of image production and effectiveness. Survey of several significant photographers, filmmakers, and television artists and their work. Emphasis on the formal elements of the still and moving image and their psychological and aesthetic effects. History and development of visual image production from the pre-technological era to present, with a view toward understanding the universal nature of the need for visual and conceptual expression among all mediums. Role of technology in the creative and aesthetic process, as well as the interplay of artistic and societal goals.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

### **Hours**

3 Class Hours;

## **COM 205 - Introduction to Filmmaking**

Introduction to the craft of filmmaking and motion picture production. A hands-on approach to the principles of cinematography, including formats, film stocks, lighting, and camera operation. Students will learn the production techniques involved in silent, single-system filmmaking, basic editing, screening techniques, and shooting film for video transfer and post-production. Students will be expected to complete a brief film project either individually or as a group, and must pay their own film and lab fees.

**Prerequisite- Corequisite**

Prerequisite: ART 112 Beginning Photography or equivalent.

Credits: 3

**Hours**

2 Class Hours, 2 Studio Hours; Suggested

## **COM 210 - Advanced Video Production**

This course covers the basic use and operation of television equipment utilizing camera, lenses, switching, sound, lights, graphics, videotape recording, and character generator. Laboratory work will center on video programs.

**Prerequisite- Corequisite**

Prerequisite: COM 180 Introduction to Video Theory and Production.

Credits: 3

**Hours**

3 Class Hours;

## **COM 211 - Digital Filmmaking**

Students will be introduced to the art of filmmaking using inexpensive Digital Video as the medium. Each student will write, shoot, and edit a series of short productions using the school's digital cameras and editing equipment. While the primary emphasis is on telling a story visually, the students will also learn basic cinematography, lighting, editing and sound recording.

**Prerequisite- Corequisite**

Prerequisite: COM 130 Introduction to Video Theory and Production

Credits: 3

**Hours**

2 class hours; 2 studio hours;

## **COM 216 - Screenwriting**

This course is a workshop introduction to the problems and possibilities presented by the feature-length screenplay. Students will write three or more ideas for feature screenplay stories, develop one of these into a 10-page outline, then write a first draft screenplay based on the outline.

**Prerequisite- Corequisite**

Prerequisite: COM 116 Writing for Broadcasting

Credits: 3

**Hours**

3 Class Hours;

## **COM 226 - Advanced Computer Imagery**

A continuation of Visual Communication theory that students were introduced to during ART 125/COM 124. Through more advanced visual design problems, students will develop their conceptual problem-solving skills relative to applied arts fields such as advertising and editorial design, animation, gaming, and web design. Advanced digital imagery techniques will be introduced using Photoshop CS2, in addition to page layout theory using QuarkXPress.

**Prerequisite- Corequisite**

Prerequisites: ART 125/COM 124; ART 115.

Credits: 3

**Cross-listed**

ART 226

**Hours**

2 Class Hours, 2 Studio Hours;

## **COM 228 - Animation I**

Animation I introduces the student to the beginning concepts of classical animation. The focus is the investigation of two-dimensional animation using the program of Macro-media Director MX. Topics covered are writing for animation and history of animation, in addition to basic animation concepts such as character development, storyboarding, audio/ music timing and screening.

**Prerequisite- Corequisite**

Prerequisite: Art 105 Two-Dimensional Design; Art 107 Color Theory; Art 115 Beginning Drawing; Art 125 Intro to Graphics, Art 225 Illustration or ART 217 Advanced Drawing.

Credits: 3

**Cross-listed**

ART 228

**Hours**

2 Class Hours, 2 Studio Hours;

## **COM 240 - Mass Media Research**

This course is designed to provide students with a foundation in media research. The course will introduce students to a variety of mass media research methods, such as library and internet research and content analysis, and will also work as a basis for future projects and presentations and presentation. It is the objective of this course to engage students in research projects, to introduce students to contemporary communication and media research practices, to prepare students to become critical interpreters of their research, to prepare students for further practice and training in communication and media research, and to explore the history and philosophy of social-scientific research in communication and media research.

Credits: 3

### **Hours**

3 Class Hours

## **COM 250 - Internship**

Placement in a communications related job. Involves in addition to job requirements, directed reading, meetings with the intern supervisor, and written assignments. Most Internships are not paid positions.

Credits: 3

### **Note**

By advisement only.

## **COM 255 - Internship**

Placement in a communications related job. Involves in addition to job requirements, directed reading, meetings with the intern supervisor, and written assignments. Most Internships are not paid positions.

Credits: 3

### **Note**

By advisement only.

## **COM 256 - Special Topics in Communication**

This course is an in-depth examination of a critical topic, skill, or creative process in Communications and Media Arts.

Credits: 3

## **COM 260 - TV Production Practicum**



With prior course knowledge acquired, students will produce 1/2 hour format news/information shows for TV airing. Both equipment control and performance will be stressed in the lecture part of the class with application of both in the studio. hour format news/information shows for TV airing. Both equipment control and performance will be stressed in the lecture part of the class with application of both in the studio.

**Prerequisite- Corequisite**

Prerequisite: THR 140 or THR 266/276 and COM 130/COM 210.

Credits: 3

**Hours**

2 Class Hours, 2 Studio Hours;

## **COM 299 - Independent Study**

An individual student project concerned with advanced work in a special area of communication. Conducted under the direction of a faculty member, independent study is concerned with material beyond the scope and depth of the ordinary course.

**Prerequisite- Corequisite**

Prerequisite: 3 semester hours of college level work in communications. By advisement only.

Credits: (1-3)

**Note**

(Requires application and approval.)

## **CRJ 102 - Criminal Justice: An Overview**

This course provides students a groundwork on which to base future criminal justice studies while giving students the opportunity to practice verbal and written communication skills and acquiring a familiarity with campus and other resources for continued criminal justice study. All criminal justice students whose writing diagnostic placement score place them in ENG 090 are required to take this course prior to taking any other criminal justice course.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Read a newspaper account of crime and explain what did and did not happen.
2. View a television crime-related show and explain what is and is not realistic.
3. Explain possible consequences to society when crimes go unchecked.
4. Identify at least 20 criminal justice career options.
5. Explain the primary function of the three main components of the criminal justice system.
6. Explain how the criminal justice system works together in addressing crime.

7. Communicate in writing why they believe people have committed certain types of crimes in our community.
8. Explain why they believe specific laws have been enacted prohibiting or requiring certain behaviors.
9. Identify resources on campus that can help them with their course of study.
10. Search for and find research material in the college library.
11. Search public domain criminal justice resources on the Internet.
12. Define 100 common criminal justice terms.
13. Explain what constitutes a credible Internet source.
14. Identify and write statements of fact and not of conclusion.

## **CRJ 105 - Introduction to Corrections**

Overview of the corrections components of the criminal justice system, tracing the history of corrections in the United States. Relationships and interdependencies of corrections with the court and law enforcement components of the criminal justice system and a discussion of the theoretical basis for the four major types of correctional models.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the major periods of corrections history and explain why each is important.
2. Explain the role of corrections in the context of the larger criminal justice process.
3. List the goals of sentencing and relate these goals to specific sentencing practices.
4. Identify the requirements needed for career entry into institutional and community corrections.
5. Explain the roles of local, state, and federal penal institutions and identify problems and solutions within such institutions.
6. Write a report on their experience touring the operation of a local correctional facility.

## **CRJ 111 - Administration of Justice**

This course provides the student with a foundation for integrated instruction throughout the criminal justice curriculum. The content of advanced criminal justice courses are introduced in this course, as well as a review of the process in which individuals become suspects, suspects become defendants, some defendants are convicted and become probationers, inmates and parolees. Innovative programs involving policing, the courts, prosecution, sentencing and corrections treatment is reviewed.

### **Prerequisite- Corequisite**

Prerequisite: Writing placement score equivalent to ENG 110 College Writing I or better.

Credits: 3

### **Hours**

3 Class Hours

## **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain what the criminal justice system is and how the components of the criminal justice system work together and affect each other in carrying out their respective missions.
2. Identify the major means of measuring crime in the United States and identify the strengths and weaknesses of each method.
3. Identify the major views of criminology and explain in general terms what each perspective is.
4. Demonstrate that they know the origins of American Criminal Law, explain the difference between Common Law and Statutory Law, and explain the concept of stare decisis.
5. Explain the English origins of early American policing and the development of policing in the United States to the present.
6. Explain the historical functions of police in terms of the three major eras of policing and identify the power, purpose, and structure of current police practices.
7. Define the Constitutional guidelines on police conduct as they relate to arrest, search and seizure, confessions, and police liability.
8. Describe the American court structure to include the appellate process, courtroom players, and the purpose of the adversarial process.
9. Explain the history and purpose of punishment.
10. Explain and justify the innovative approaches to punishment in society today.
11. Define the difference between jails and prisons and explain the functions and purposes of both.
12. Define in general terms the theories related to delinquency and the structure of the American juvenile justice system.

## **CRJ 115 - Juvenile Justice System**

Overview of the juvenile system, including the history, process, status and philosophy of the juvenile court. Law enforcement handling of juveniles, various theories of delinquency causation, correctional programs and alternative methods of dealing with juvenile offenders.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain the differences between delinquency, status offenses, and inadequate parental care.
2. Explain the theories behind delinquent behavior.
3. Map out the functions of the police in regard to juvenile delinquency.
4. Describe the welfare and probation services made available to delinquent children and their parents.
5. Demonstrate the legal issues involved in dealing with delinquent behavior as it relates to the criminal justice.
6. Identify service providers that deal with treatment plans to reunite families and prevent further juvenile misconduct.
7. Give examples of juvenile misconduct.
8. List the programs in schools that are available to help prevent school violence.

9. Explain the prosecutorial decision making process in juvenile court.
10. Describe the "parens patriae" concept.
11. List juvenile community-based alternatives to prison-bound wayward youth.
12. List and explain the different goals of juvenile corrections.

## **CRJ 125 - Criminal Law**

Essential elements of the various crimes under the criminal law. The concepts of culpability and criminal defenses recognized under the criminal law as they relate to murder, rape, robbery, burglary, arson, assault, drug offenses, disorderly conduct and harassment.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. List and give examples of different guilty mental states.
2. Describe the elements of the crimes listed above, using a statute from the text, the Model Penal Code, or the New York State Penal Code.
3. Explain and give examples of affirmative defenses.
4. Write arguments from the perspective of the prosecution and the defense about how the law should be applied in a particular case, including arguments about fairness and precedents.
5. Demonstrate verbally how prosecutors and defense attorneys might argue the cases covered in class.

## **CRJ 130 - Introduction to Security**

Organization and management of the security function in industry, business, government and institutions. The protection of personnel, facilities and other assets, as well as administrative, legal and technical problems of loss prevention and control.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the different organizational structures in security organizations and to explain their various strengths and weaknesses.
2. Demonstrate strategies for monitoring and preventing loss in various settings.
3. Demonstrate strategies for protecting personnel in various settings.
4. Complete written reports regarding loss prevention efforts, reported losses, and safety concerns.
5. Explain the legal considerations that must be taken into account in establishing best practices in security operations.



## **CRJ 205 - Correctional Law**

Overview of correctional law as it relates to prisons, probation, parole, capital punishment, juvenile justice, and sentencing based on leading court cases on these components of the corrections system. Emphasis is placed on the principles of law governing these decisions as they relate to New York Correctional Law.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. List the Constitutional rights of inmates, parolees, probationers, and juvenile offenders.
2. Identify the situations in which an office could be held liable for his/her behavior.
3. Explain court cases addressing the rights of convicted offenders.
4. Describe and demonstrate best practices by corrections officers.

## **CRJ 212W - Criminal Procedure and Constitutional Law**

The right to counsel, search and seizure, confessions, lineups, electronic surveillance, probation and parole. Writing Emphasis Course.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the structures of the federal and state court system; explain the different meanings of jurisdiction; explain sources of individual rights; and explain the doctrine of incorporation.
2. Outline the steps that take place from the time of arrest to final disposition.
3. Recite from memory a definition of probable cause and distinguish the difference between probable cause, reasonable suspicion, proof beyond a reasonable doubt, absolute certainty, a hunch, and explain how probable cause is established.
4. Explain what the Exclusionary Rule is and explain why it has been instituted in American policing; identify exceptions to the Exclusionary Rule; and list possible alternatives to the Exclusionary Rule.
5. Explain the justification for a "stop and frisk"; distinguish the difference between a "stop" and a "frisk" and identify what each is; and properly conduct a "stop and frisk".
6. Define an arrest as a seizure of a person; explain the elements of an arrest; explain when arrests are permissible for felonies and misdemeanors; explain the amount of force that can be used in making an arrest; and conduct a lawful arrest.

7. Identify the requirements necessary for conducting a lawful lineup before and after an arrest; identify the requirements necessary for conducting a lawful show-up; identify the requirements necessary for conducting a lawful photo array; and create a legally defensible photo array and use the array in conducting an investigation.
8. Explain the difference in legal requirements for conducting house searches and vehicle searches, list the steps police can take after a vehicle stop, explain the limits of vehicle searches; and conduct a vehicle search and inventory.
9. Explain the three concepts that do not fall under the Fourth Amendment prohibition against unreasonable searches and seizures and explain the legal requirements for conducting electronic surveillance.
10. Explain the background of the *Miranda v. Arizona* decision; identify the two-pronged test for giving the *Miranda* Warnings, and recite the *Miranda* Warnings.
11. Explain the Constitutional Rights of criminal defendants at trial and identify the Constitutional Amendments that apply.

## **CRJ 215 - Police Administration**

Fundamentals of organization, supervision and overall management of police and civilian personnel. Designed to supply a background for the students in dealing with the complexities involved in the management aspect of various police agencies.

### **Prerequisite- Corequisite**

Prerequisite: CRJ 111 Introduction to Criminal Justice.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain how the history of law enforcement in the United States has evolved into what it is today and discern trends that point toward new eras of policing in the future.
2. Identify the roles of positive and negative politics in the operations of American policing and identify the sources of power for policing initiatives in the past.
3. Explain how motivational theories relate to formal and informal organizational designs in police departments and how they contribute to the police culture.
4. Describe the qualities of a leader as this applies to administrators, managers, and supervisors, and identify those characteristics common to good leaders.
5. Explain the different functions of line and staff personnel.
6. Demonstrate through actual practice the skills that are required for reflective and empathic listening and understanding.
7. Identify the characteristics of a good mission statement, define what a goal is, and create a personal mission statement that reflects understanding of the principles of singling out important activities from those that are unimportant.
8. Define stress-coping skills and identify the harmful effects of stress.
9. Explain the potential legal liabilities associated with hiring, training, retaining, disciplining, and terminating employees and identify Constitutional personnel procedural protections afforded to police employees in the performance of their duties.

10. Explain the planning and decision-making process and complete a group decision-making project that reflects the value of group decisions over individual decisions.
11. Describe the various fiscal management methods common to law enforcement.
12. Identify effective evaluation processes for police operations and programs administered by law enforcement.

## **CRJ 216 - Police Operations**

This course gives students a glimpse of what students can expect to learn at a police academy while covering topics such as traffic stops, radar operation, accident investigation, arrest procedures, searching, and police report writing. Emphasis is placed on the ethical considerations in police work and distinguishing media myth from police work reality.

### **Prerequisite- Corequisite**

Prerequisite: CRJ 111 Administration of Justice

Credits: 3

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Make a safe traffic stop.
2. Explain acceptable police behaviors in typical ethical traps.
3. Recite the law enforcement phonetic alphabet and police "10-Code".
4. Calculate speed by means of a stopwatch.
5. Determine minimum speed from skid marks.
6. Diagram a simple accident scene using standard police procedures.
7. Safely direct traffic.
8. Explain how police radar functions, including the echo effect and Doppler Effect.
9. Conduct a standard field sobriety test.
10. Explain how blood alcohol is measured.
11. Demonstrate the process for field note taking and effective report writing.
12. Conduct a field interview.
13. Properly pat down, detain, search, arrest, and handcuff a suspect.
14. Conduct a background investigation.
15. Recite the Miranda warnings.
16. Explain safe weapons handling (and when possible, demonstrate safe weapons handling).
17. Explain New York's Penal Law of deadly force.
18. Identify resources common to most communities that may be used to assist the police function.
19. Explain the process for responding to crimes in progress.
20. Complete an "Academy Notebook".

## **CRJ 218 - Police Community Relations**

This course explores the relationship of the police to the community including the role of police in contemporary society; abuses of discretion; past, present and future trends in policing; problem identification and solving; and ethical issues facing policing in a free society.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify basic terminology used in police community relations.
2. Identify the difference between public relations and police community relations.
3. Describe the important relationships within police organizations.
4. Discuss the changing roles of police officers in the 21st century.
5. Discuss the role of the media and its impact on police community relations.
6. Demonstrate effective interactions with the media.
7. Demonstrate the steps in the escalation and management of conflict.
8. Discuss means for successful community involvement in the police organization.
9. Discuss and identify the necessary strategies for police community relations in the new millennium.
10. Compare and contrast community policing with problem-oriented policing.
11. Explain the problem-solving paradigm used in policing.
12. Demonstrate techniques for interacting effectively with members of the community.
13. Survey members of the public regarding their interactions with the police, and report their results to the class in writing and verbally.

## **CRJ 225 - Security Administration**

Administration of public and private security efforts: problems in protection program development and evaluation, functions of various levels of personnel, company/organizational relations, documents and personnel access control, detection systems, devices, and equipment, emergency and disaster planning, new directions in the field of security.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the problems in protection program development and evaluations.
2. Explain the functions of various levels of personnel within an organization.
3. Assess the relative strengths and weaknesses of various detection systems, devices, and equipment.
4. Describe the new directions in the field of security.
5. Prepare a written disaster plan for an organization.

## **CRJ 230 - Criminal Investigation**



Basic principles of investigation as they relate to the collection, preservation, identification and examination of physical evidence. Techniques for locating and interviewing witnesses and interrogating suspects.

### **Prerequisite- Corequisite**

Prerequisite: CRJ 111 Administration of Justice.

Credits: 4

### **Hours**

3 Class Hours (BCC); 3 Laboratory Hours (Additional tuition and fees)

### **Note**

(Currently being revised.)

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the different tools of a criminal investigator and explain how they are used and under what circumstances these tools would be used.
2. Conduct an interview of a "witness" and record the interview through note-taking.
3. Write a report based on information given to the student that answers the questions: who, what, when, where, how, and why.
4. Draw a simple diagram using at least two methods of documentation.
5. Take crime scene photographs using proper exposure methods and documentation practices.
6. Demonstrate the acceptable methods for collection of different types of evidence, including glass, hairs and fibers, body fluids, and controlled substances.
7. Explain the legal requirements for taking statements in interviews and interrogations.
8. Demonstrate proper documentation and recording techniques for interviews and interrogations.
9. Identify instruments and technology used in the gathering and analyzing of information, including "spike mikes", pin hole cameras, and infrared photography.
10. Identify sources of information, including the Internet, public records, business records, and informants and what those records will reveal.
11. Demonstrate stationary and moving surveillance techniques.
12. Identify the various fingerprint patterns and demonstrate methods of collecting fingerprints from smooth, metallic surfaces, from paper, and other surfaces and explain the chemistry involved in each of those techniques.
13. Explain the basic premise for ballistic and tool mark identification.
14. Conduct a simple drug identification test and explain the chemistry involved.
15. Do a simple plaster casting of a footprint.
16. Explain the processes used in questioned document examination.

## **CRJ 235 - Corrections Administration**

A survey of the theories and practices of penology in correctional institutions. The physical, educational, and social aspects of incarceration are studied relative to their impact on correctional clients. Principles of management relative to correctional services are explored.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the differences between organizational leadership and organizational management.
2. List and define the five traditional functions of management and explain how corrections administration compares with other public administration careers.
3. Prepare questions for and conduct an interview with a local correctional administrator.
4. Identify best practices in areas of personnel, budget, planning and public relations.
5. Prepare oral and written responses to real life problems faced by corrections supervisors and administrators.

## **CRJ 240 - Community Corrections**

An introduction to the history, philosophy, and practices of probation, parole, intensive supervision, community corrections, and other non-institutional corrections treatment settings. The philosophy of community treatment is explained and procedures and processes of supervision as they pertain to the offender are examined.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. List and describe the various alternatives to incarcerations programs and evaluate whether such programs can be successful.
2. Write a fictional pre-sentence investigation report using the NYS format using sound and logical construction.
3. Engage in a mock interview of a resistant offender using motivational interviewing techniques.
4. Write a report on their experience touring the operation of a local probation department.
5. Explain techniques for the supervision of general and special offender populations including use of technology such as electronic monitoring and drug testing equipment.

## **CRJ 245W - Criminology**

A study of the general field of criminology considering the general theories of crime causation and the impact crime has on society. Policy implications related to prevention, treatment of victims, and legal intervention are reviewed.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain what criminology is.
2. Explain the difference between criminology and criminal justice and explain the relationship between the two.
3. Distinguish the different models used for research in criminology.
4. Explain the major sources and origins of criminal law.
5. Give a legal definition of crime.
6. Identify the various sources of crime statistics used in the United States and explain the strengths and weaknesses of each.
7. Describe the factors relating to victimization and the role of ecological, household and victim demographic characteristics.
8. Explain the difference between classical criminology and positive criminology.
9. Compare and contrast biosocial and psychological theories of crime causation.
10. Explain the link between intelligence and crime.
11. Discuss the three branches of social structure theory.
12. Identify the major social process theories.
13. Explain the basic elements of social conflict theory.
14. Identify characteristics of serial killers and mass murderers and explain differences between these two classes of killers.

## **CRJ 246 - Victimology**

The study of victims and their relationship to the offender. Course allows the students to explore various types of victims and their role in victimization. Victims examined are the elderly, inner city youth, family members, children of criminals, and the victim of violent offenders who are complete strangers. The course also examines the role of the law enforcement officer, victims advocacy groups, the function of victim impact statements, and the victims' right to know what the prosecutor's office is doing about their cases.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the origins of victimology.
2. Compare and contrast the information available from different sources of crime statistics.
3. Explain different theories of how and why people become victims of crimes.
4. Demonstrate both conflicts and cooperation between victims and law enforcement.
5. Describe the challenges faced by victims in the legal system, in their families, in the political system, and in the society at large.
6. Describe the role of the victim in the criminal justice system, from the beginning to the end of a case.
7. Explain how that role has been evolving over time.
8. Assess the strengths and weaknesses of various types of victim reparations.
9. Attend a trial, hearing, arraignment, or a victim's advocacy group, and describe the experience from the perspective of a victim.

## **CRJ 255 - Special Topics in Criminal justice**

The specific area to be covered will be based upon identified needs and interests of criminal justice students. This course also provides a forum for professional individuals in the criminal justice field with a particular expertise to share their knowledge and skills with students. Special topics have included Criminalistics, Police Community Relations, Drug Law, Current Legal Issues, and Domestic Violence.

### **Prerequisite- Corequisite**

Prerequisites: CRJ 111 Administration of Justice.

Credits: (1-3)

### **Hours**

1-3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

The objects for this course will vary, depending on the material being covered.

## **CRJ 260 - Organized Crime**

Role of legal system in organized crime control, preventative methods, political influences; white collar crime, methods of intelligence gathering; relationships of organized crime to community social structure.

### **Prerequisite- Corequisite**

Prerequisite: CRJ 111 Administration to Justice, or permission of chairperson.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the historical reasons for the rise of organized crime across countries and across history.
2. Explain the role of money and extortion in organized crime.
3. Explain how and why there have been historical shifts as different enterprises have developed, grown, and gained prominence in the area of organized crime.
4. Explain how organized crime interacts with and thrives only in interaction with legitimate society.
5. Describe the role of the legal system in addressing organized crime.
6. Assess the strengths and weaknesses of various strategies for preventing and addressing organized crime.
7. Explain how organized crime is involved in white collar crime and other offenses.



## **CRJ 295 - Criminal Justice Internship**

Designed as a field experience for students in selected settings (Public Defender, Police Agencies, etc.). Weekly seminars to augment experiences with operations, procedures and policies. Flexible scheduling hours TBA.

### **Prerequisite- Corequisite**

Prerequisite: Third semester criminal justice student status, 2.5 GPA, and acceptance by a local criminal justice agency.

Credits: 3

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain, in writing and verbally, how the Criminal Justice theories they are learning is being put to use in the field.
2. Demonstrate to the satisfaction of their field supervisor that they can carry out assigned tasks in a thorough and timely manner.

## **CRJ 299 - Independent Study**

An individual student project concerned with advanced level work beyond the scope or breadth of regular courses. A specific area or topic is investigated under the direction of a faculty member. Must be approved by department chairperson and Dean.

### **Prerequisite- Corequisite**

Prerequisites: CRJ 111 Administration of Justice and 6 credits in CRJ courses.

Credits: (1-3)

### **Hours**

1-3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

The objects for this course will vary, depending on the material being covered.

## **CSS 106 - College Success Seminar**

This course is designed to assist students in understanding the theory and application of academic strategies. Topics will include learning theory, test taking, note taking, reading text material, college writing, and other topics related to college success. This course forms a Learning Community with SOS 101. All the study strategies will be applied to the course content in SOS 101.

### **Prerequisite- Corequisite**

Corequisite SOS 101

Credits: 3

## **CST 102 - Computer Aided Success**

This course will help develop computer skills to enable a student to be successful in college (Super Useful Computer Concepts Every Student Seeks). Topics include use of BCC Computer System, development of professional papers using Microsoft Word, creation of presentations using Microsoft PowerPoint, searching for and validating information found on the Internet, maintenance of computer files, maintenance of a Computer System, learning styles and time management.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain the 150% Rule and "attempted credits".
2. Use professional Time Management techniques to balance school, work, and personal demands.
3. List and demonstrate the steps necessary to maintain a personal PC.
4. Use Outlook to send/receive e-mails with attachments.
5. Explain the use of Learning Management Systems for on-line course presentation.
6. Use Word to create/edit/save professional outlines and research papers.
7. Use PowerPoint to create/edit/save unique, creative, educational and entertaining presentations.
8. Use Excel to create an expense budget.
9. List and demonstrate the usefulness of career assessments (Strong's, Myers-Briggs, Colors).
10. List and demonstrate Learning Styles/Differentiated Learning and their specific "style".
11. Use Library resources to research and develop college-level research papers.
12. List and demonstrate academically reviewed/authroized search engines.
13. Properly cite sources using both MLA and APA citation formats.
14. Create both a hardcopy and e-format resume.
15. List and demonstrate the use of Publisher for creating a composite business presence.
16. List and demonstrate the use of Visio for creating industry-standards' layouts and designs.

## **CST 103 - General Security Concepts**

A first, introductory course in computer and network security concepts and techniques. No knowledge of networking is required. Topics include operating system security, authentication, attacks, auditing, cryptography, physical security, and disaster recovery. Numerous case studies are presented and studied.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the legal and ethical issues associated with information security.
2. Describe the various operating security features (including authentication).
3. Explain the different types of malicious code and attacks on computers.
4. Understand how to perform auditing.
5. Be familiar with the basics of cryptography.
6. Understand the relationship between physical security and disaster recovery.

## **CST 104 - Remote Security Methods**

This second security course builds on the material introduced in CST 103 General Security Concepts. Detailed examinations of many different remote access methods are undertaken. These methods include RAS (via PPP over a modem), VPN (virtual private networking), secure email and file transfers, secure web access, wireless security, and instant messaging.

### **Prerequisite- Corequisite**

Prerequisite: CST 103 General Security Concepts.

Credits: 3

### **Hours**

2 Class Hours; 2 Laboratory Hours.

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe unsecure and secure ways of doing web, email, and ftp.
2. Describe the operation and features of a typical router.
3. Explain the operation of a VPN tunnel, including the protocols used, and the essentials of encryption and hashing.
4. Understand how to setup an RAS server.
5. Understand the basics of file and directory access security.
6. Be familiar with wireless networking and instant messaging.

## **CST 105 - Computer Applications**

This is an introduction course to computer concepts and application software. Topics include word-processing, spreadsheets, databases, the Internet and computer Operating Systems. Microsoft Office will be used in the laboratory to develop academic, professional, and business applications.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Note**

Credit will not be given for both CST 105 and CST 106.

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Use PowerPoint to create and present presentations.
2. Create a résumé, cover page, envelopes, labels, and tables.
3. Use the Internet to access course material.
4. Communicate using mail facilities.
5. Create and develop a solution to a problem using a spreadsheet for analysis.
6. Create a relational database.
7. Evaluate a computer configuration.
8. List and develop an understanding of computer ethics in today's society.
9. Create an integrated document with spreadsheets and/or databases.

## **CST 106 - Computers in Technology**

An introductory course on the use of computers for technology students. Software packages will be used in problem solving and communications. Topics will include basics of computer operations, hardware, word-processing, spreadsheets, e-mail, information transfer, presentation managers, the Internet, ethical issues and programming concepts. For students of technology.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Note**

Credits will not be given for both CST 105 and CST 106.

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Use PowerPoint for presentations.
2. Create résumés, reports, envelopes, labels, and tables.
3. Use Equation Editor to create equations with proper symbols.
4. Create forms and newsletters.
5. Use the Internet to research technical topics.
6. Communicate using different facilities.
7. Create a spreadsheet for technical analysis.
8. Evaluate a computer configuration.
9. Discuss computer ethics in today's society.
10. Collaborate and research with other team members.
11. List and demonstrate ten core presentation techniques in PowerPoint.
12. List and demonstrate ten core concepts for document preparation in Word.
13. State verbally and in written documentation, eight core requirements for creating formal documents.
14. Properly cite sources using both MLA and APA citation formats.
15. Create equations with proper symbols within a word processing document.



16. Use and contrast four different communication facilities.
17. List and demonstrate ten core concepts in Excel.
18. State verbally and in written documentation, seven core issues in computer ethics today.
19. State verbally and in written documentation, twelve key components to a computer system.
20. Present a final team project in an area related to your field of study (Civil, Mechanical, or Industrial Technology).

## **CST 109 - Computer History**

This course explores the history of the personal computer industry, and relates the evolution of computers with that of networking and the emergence of malicious code, Internet attacks, and identity theft. The relationship between all three is explored in depth so that the student has a clear understanding of the environment in which they will be performing additional study and eventually, actual work activities.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the evolution of the Intel microprocessor family and its relationship to the evolution of malicious code.
2. Understand how the power of the personal computer is related to the microprocessor used inside it.
3. Explain how the emergence of networking and the world-wide-web led to many of the computer security issues facing us today.
4. Explain how microprocessor technology, computer networking, and Operating System vulnerabilities all combine to enable the evolution and spread of malicious code.
5. Describe how computers and the Internet combine to enable identity theft and other illegal activities.

## **CST 113 - Introduction to C#**

Introduction to the fundamentals of object-oriented programming using Visual Studio and C#. Topics may include forms, controls, properties, methods and events, data types and variables, decisions and conditional statements, exception handling, menus, multiple forms, repetition/loop structures, list boxes, combo boxes, and printing. Lab assignments emphasize program development using an object-oriented modular design and self-documentation.

### **Prerequisite- Corequisite**

Prerequisite: A computer course or equivalent.

Corequisite: CST 117 Language Independent Design Tools.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate using Visual Studio to compile, debug and run C# programs.
2. Demonstrate the use of object-oriented and event-driven programming techniques.
3. Develop and use classes and methods for objects.
4. Demonstrate the use of good problem-solving skills for program development.
5. Create projects that use objects, events, decisions, loops and lists correctly.
6. Demonstrate the use of good problem-solving skills for program development.
7. Demonstrate how to use standard requirements for programs to develop well written C# programs.
8. State, verbally and in writing, at least 3 core bugging techniques.
9. Demonstrate the use of at least 3 different repetition structures.
10. Demonstrate the use of the decision structure using if statements and the switch structure correctly.
11. Demonstrate how lists can be used with loops for processing.

## **CST 117 - Language Independent Design Tools**

An introduction to proper design techniques for structured programming languages. This course presents several Language Independent design tools. Topics covered include: problem solving techniques, modular design, how to perform a proper trace, subroutines, and other fundamentals of software engineering.

### **Prerequisite- Corequisite**

Corequisite: CST 113 Introduction to C#.

Credits: 2

### **Hours**

2 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Develop and design solutions.
2. Demonstrate an ability to use design development tools to organize problems.
3. Demonstrate an ability to modularize a solution.
4. Demonstrate the principles of critical thinking skills.
5. Work in group environments to effectively and efficiently create solutions.

## **CST 119 - Computer Concepts and Applications**

A foundation course for computer studies majors who have already had some exposure to computers. The lecture and lab will cover basic concepts in computer science and information science. The use of word processing, spreadsheets, databases, and presentation software will be covered through a series

of self-directed projects. Lecture and lab content includes an introduction to computer architecture, data representation, networks, database systems, systems analysis, CASE tools, operating systems including an introduction to DOS and UNIX, comparison of programming languages, Internet, Web page development, computer history and ethics. Students should have completed a high school computer science course, which focused on the use of the Office suite, or CST 105/CST 106.

### **Prerequisite- Corequisite**

Prerequisite: High School Computer course or CST 105/CST 106.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. List at least five historical inventions that lead to the development of modern computers.
2. List and demonstrate ten core document preparation concepts in Word.
3. List and demonstrate ten core spreadsheet concepts in Excel.
4. List and demonstrate ten core presentation techniques in PowerPoint.
5. List and demonstrate ten core databases in Access.
6. List and demonstrate five core Office 2007 integration techniques.
7. List and demonstrate five core programming concepts in Visual Studio.
8. List and demonstrate five core diagramming concepts in Visio.
9. State verbally and in written documentation, ten core issues in computer ethics today.
10. State verbally and in written documentation, ten core issues in computer security today.
11. State verbally and in written documentation, twelve key components to a computer system.
12. Convert to and from binary, decimal, octal, and hexadecimal number systems.
13. Add and subtract in binary, octal, and hexadecimal number systems.
14. State verbally and in written documentation, ten core operating systems concepts.
15. State verbally and in written documentation, the three main network models.
16. State verbally and in written documentation, the various network protocols and standards.
17. List and demonstrate five core Web development techniques using PowerPoint and Notepad.
18. State verbally and in written documentation, five core file systems concepts.
19. State verbally and in written documentation, the relationship between software engineering and the creation of applications.

## **CST 120 - Java Programming**

An introductory programming course in the JAVA language with a focus on web applets. Topics include data types, animation, program control, input/output, arrays and structures. Students will be introduced to JavaScript as an introduction to Web-based programming.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Create an applet.
2. Integrate applets in webpages.
3. Describe Java and AWT basics.
4. Dynamically use applet size information to position items on the applet.
5. Create Java applets with animation.
6. Describe a GUI interface.
7. Have interaction with the user through Event Handling.
8. Use images in applet programs.

## **CST 123 - Visual Basic for Technology**

Introduction to the fundamentals of programming in a technical environment using Microsoft's Visual Basic. NET. The course will teach students how to design and create applications using structured, event-driven, and object-oriented programming techniques. Programming concepts to be covered include data types and variables, control structures, arrays, functions, sequential files, printing, and effective GUI design. Applications will include topics relevant to engineering technology courses.

### **Prerequisite- Corequisite**

Prerequisites: CST 106 Computers in Technology or equivalent.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Use a computer programming language to solve technical problems.
2. Describe and compare the fundamentals of structured, event-driven, and object-oriented programming.
3. Create user-friendly graphical interfaces of Windows applications.
4. Describe and effectively use data types and variables/constants, programming control structures, arrays, functions, sequential files, and print output.
5. Describe the purpose and main features of an integrated development environment.
6. Use an IDE effectively to create a complete program.

## **CST 124 - Introduction to CGI Programming**

An introduction to CGI (Common Gateway Interface) Programming, used to develop server side application programs for the WWW. The basic coverage of CGI programming includes developing the relationship between HTML coding displayed by the browser and the actual CGI program running on the server. The main emphasis will be placed on developing and debugging CGI applications. Several different methods of program input using forms will be covered, such as environment variables, hidden variables, selection menus, and passwords. Program output using interactive forms, plain text and HTML will also be covered in detail. Each student will be expected to write several CGI programs to explore some of the most common types of CGI applications.



**Prerequisite- Corequisite**

Prerequisite: CST 113 Introduction to C# or CST 120 Java Programming.

Credits: 3

**Hours**

2 Class Hours, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Determine the platform details including the operating system and http server software for various Internet websites.
2. Install and configure a local web server to allow CGI operation.
3. Develop web pages and CGI programs on a local web server.
4. Develop CGI scripts/programs using the GET and POST methods.
5. Create and/or copy web pages on a remote web server using FTP and Telnet.
6. Check the settings of a web server configuration file.
7. Use text files as the source of HTML displayed on a web page.
8. Discover the latest technologies used to develop web applications.

**CST 127 - Introduction to C++ for Engineers**

Introduction to the fundamentals of structured programming using C++. Topics may include input-output statements, data types, loop structures, decision structures and functions. Lab assignments emphasize engineering concepts as well as program development using modular design and self-documentation.

Credits: 3

**Hours**

2 Class Hours, 2 Laboratory Hours

**Note**

(This course cannot be used as a course substitute in any CST program)

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Use a C++ editor and compiler.
2. Effectively use input/output statements, variable and constants.
3. Use assignment statements, if statements, loops and methods.
4. Create programs that use input and output file.
5. Create programs that declare, initialize and manipulate arrays.
6. Use C++ elements to solve engineering problems.

**CST 131 - Web Development Languages**

This class will emphasize hands-on instruction and practical usage of HTML, JavaScript and XML. Topics in HTML will include tags, fonts, images, tables, layouts, image maps. Cascading Style Sheets will be covered. JavaScript will include the topics of declaring variables, declaring and using functions, event handling and accessing existing Java functions. This course is designed to give students an insight and hands on experience in how XML can be used on the Internet.

**Prerequisite- Corequisite**

Prerequisite: CST 113 Introduction to C#.

Credits: 3

**Hours**

2 Class Hours, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Create a basic Web page with HTML commands.
2. Use HTML tags for ordered lists, pictures, fonts, frames, and links.
3. Design effective Web pages and techniques to keep the user interested in the Web page.
4. Understand JavaScript to allow the user to interact with a Web page.
5. Create JavaScript to ask the user questions and act on answers.
6. Create JavaScript to create motion on the screen.
7. Create If statements, Loops and arrays in JavaScript.
8. Use and understand the basics of Dreamweaver.
9. Understand the HTML created by Dreamweaver.

## **CST 133 - Structured Programming in C#**

Introduction to object-oriented programming in C#. A structured approach to problem solving will be used. Programming steps include program definition, coding, debugging, testing, validation, documentation, and program maintenance. Topics include functions, objects, structures, arrays, and file processing. Lab assignments will require modular structured programming.

**Prerequisite- Corequisite**

Prerequisites: MAT 096 Elementary Algebra and Trigonometry and CST 113 Introduction to C#.

Credits: 3

**Hours**

2 Class Hours, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate the use of Visual Studio.NET to compile, debug, and run C# programs.
2. Demonstrate the proper use of structured programming techniques.
3. Create classes and methods of objects.
4. Demonstrate the proper use of selection structures and repetition statements.
5. Demonstrate creation of functions.

6. Use arrays and strings for program development.
7. Use standard requirements for programs.

## **CST 138 - Structured Programming in C++ for Engineers**

Students will demonstrate a knowledge of C++ by writing programs to solve engineering problems such as: statistics, Monte Carlo method, best fit straight line, heat flow, center of mass, complex numbers, matrices, and electrical circuits.

The course will illustrate the basics of C++ including: structures, recursion, pointers, dynamic memory allocation, linked lists, OOP, classes, overloading, encapsulation and polymorphism, inheritance, and composition.

### **Prerequisite- Corequisite**

Prerequisites: CST 127 Intro to C++ for Engineers

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate a working knowledge of the following C++ topics by successfully writing programs to solve engineering-based problems such as:

- basics of C programming, data types, functions, files
- scope, duration, recursion, scope resolution operator
- passing functions, storage class modifiers
- pointers, dynamic memory allocation, linked lists
- enumeration, structures
- OOP, classes
- overloading functions and operators
- encapsulation and polymorphism
- inheritance, composition
- friends, virtual functions
- class templates

2. Explain the concepts, components and philosophy of Object Oriented Programming, OOP.

3. Explain the benefits of using OOP in classes.

4. Explain what a pointer is, and how it is used in a program.

5. Explain the advantages and disadvantages of a linked list.

6. Create a linked list using C++.

7. Solve various engineering problems using mathematical techniques such as: statistics, Monte Carlo method, best fit straight line, heat flow, center of mass, complex numbers, matrices, determinates, electrical circuits.

## **CST 140 - Computer Maintenance**

This course teaches the principals of good computer maintenance including: identification of hardware components, storage organization, hardware and software troubleshooting, disaster recovery, safety procedures, and maintenance plans.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify hardware components of a computer system.
2. Organize secondary storage systems.
3. Trouleshoot hardware and software.
4. Maintain backups for disaster recovery.
5. Follow safety procedures.
6. Develop a maintenance plan.

## **CST 150W - C++ Programming with Objects**

This course assumes a complete understanding, and prior experience with High-Level Language programming concepts. The course quickly presents the C++ syntax quickly moving on to more advanced topics. Topics covered will include: C++ overview, variables, constants, program control, I/O, functions, preprocessors, arrays, structures, pointers, classes, and object-oriented programming, inheritance, overloading.

### **Prerequisite- Corequisite**

Prerequisite: CST 133 Structured Programming in C++.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. State, verbally and in written documentation, seven core debugging techniques.
2. List and demonstrate structured programming techniques.
3. List and demonstrate ten core concepts for objects.
4. Use memory management techniques in program development.
5. State, verbally and in written documentation, eight core construct/destructor methods.
6. List and demonstrate inheritance for objects.
7. List and demonstrate use of base and derived classes for programs.

## **CST 158 - Spreadsheets With Financial Applications**



A comprehensive course in spreadsheet development and design with a focus on financial applications using software such as Excel. Advanced topics include object linking and embedding, goal seeking, look up tables, data tables, multiple worksheets, managing scenarios, relational databases web application and application development with Macros and Visual Basic. Financial applications include basic financial statements, loan payments, cash flow analysis, capital budgeting, break-even analysis, and inventory management.

**Prerequisite- Corequisite**

Prerequisite: MAT 096 Elementary Algebra and Trigonometry, and CST 105 Introduction to Computers.

Credits: 3

**Hours**

2 Class Hours, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Effectively use and create a spreadsheet to handle commonly encountered financial and business applications.
2. Use a business case approach and apply it to a practical solution using a spreadsheet such as Excel.
3. Be proficient at planning building, testing and documenting a worksheet.
4. Demonstrate and use advanced techniques involved in creating spreadsheets, such as data management, integration with other Windows programs and the Internet.
5. Use data tables, scenario management, application development with macros.
6. Write Visual Basic applications using Solver for complex problems.

**CST 170 - Digital Logic**

Comprehensive coverage of basic gates, Boolean Algebra, Karnaugh Mapping and Quine-McCluskey technique for circuit simplification. Adders, subtractors, multiplexers, code converters, asynchronous and synchronous counters presented in detail as basic computer building blocks. Analog-digital and digital-analog interfacing. Lab exercises use a combination of Multisim and/or TTL and CMOS gates.

**Prerequisite- Corequisite**

Prerequisite: MAT 096 Elementary Algebra and Trigonometry.

Credits: 3

**Hours**

2 Class Hours, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify and describe the function of the seven basic logic gates.
2. Use Boolean Algebra, Karnaugh Mapping or Quine-McClusky to reduce complex logic expressions to their simplest terms.
3. Identify and use medium scale integrated circuits like adders, subtractors, multiplexers, demultiplexers, encoders and decoders.

4. Design counter circuits using asynchronous design techniques.
5. Design counter circuits using synchronous design techniques.
6. Identify basic analog-to-digital conversion circuits (A/D converters).
7. Design A/D converters to perform specific conversions.
8. Identify basic digital-to-analog conversion circuits (D/A converters).
9. Design D/A converters to perform specific conversions.

## **CST 200W - Systems Analysis**

A first course dealing with the principles of systems analysis and problem solving, concentrating on investigation and analysis of systems and their resulting design. Emphasis on the importance of standards, procedures, documentation and design tools with a focus on object-oriented systems development. A variety of group and individual lab assignments will include analysis and design tools, prototyping and CASE. Both traditional and object-oriented techniques will be used. Writing emphasis course.

### **Prerequisite- Corequisite**

Prerequisite: CST 113 Intro to C# or CST 120 Java Programming, and CST 119 Computer Concepts and Applications.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. State, verbally and in writing, the steps of the Systems Development Life Cycle.
2. List and demonstrate a variety of systems analysis tools and techniques.
3. List and demonstrate modeling including functional decomposition diagrams, dataflow diagrams, and entity relationship diagrams.
4. Demonstrate the use of memos, business letters and reports to demonstrate good communication and writing skills.
5. Demonstrate good teamwork and meeting skills in completing a systems team project.
6. Demonstrate the use of a Case Tool to develop diagrams for a systems team project.
7. Demonstrate prototyping skills for input and output design based on a systems team project.
8. Demonstrate mastery of course concepts in creating well written reports.
9. Demonstrate critical thinking skills in discussion responses and team assignments.

## **CST 202W - Data Structures with C++**

This course assumes a complete understanding and experience with the C++ programming language. The course gives the student the necessary design philosophies, fundamental syntax, and experience with, advanced programming concepts. Topics covered include: static and dynamic data structures, arrays, structures, files, linked lists, stacks, queues, trees, and recursion. Structured modular

programming and extensive documentation is required. Writing emphasis course.

**Prerequisite- Corequisite**

Prerequisite: CST 150 C++ Programming with Objects with a minimum grade of "C" or better.

Credits: 3

**Hours**

2 Class Hours, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. State, verbally and in written documentation, five sort routines.
2. List and demonstrate five key concepts with Linked Lists.
3. List and demonstrate five key concepts with Stacks.
4. List and demonstrate five key concepts with Queues.
5. State, verbally and in written documentation, five core sort routines.
6. List and demonstrate five key concepts with Trees.
7. List and demonstrate structured programming techniques for C++.

## **CST 203 - Security Hardware and Software**

This third security course concentrates on security hardware and software. Hardware devices include media, NICs, switches, routers, firewalls, intrusion sensors, and biometric security sensors. Software applications include sniffers, network scanners, remote control software, OS network commands, forensic analyzers, and event analyzers.

**Prerequisite- Corequisite**

Prerequisite: CST 104 Remote Security Methods

Credits: 3

**Hours**

2 Class Hours, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Configure a software or hardware firewall.
2. Configure a managed switch.
3. Capture and analyze network traffic using a sniffer.
4. Have knowledge of the essentials of biometric authentication involving fingerprints and facial recognition.
5. Work with JPG image files that have embedded EXIF information or stegonographic content.
6. Have knowledge of the operation of spanning tree algorithms and fault tolerant techniques and their application to networks.
7. Use disassemblers and debuggers to analyze malicious code.

## **CST 208W - Introduction to Computer Networking**

This course is designed to teach the fundamentals of computer networking including network topology, design, implementation, troubleshooting support, and security. Students will investigate hardware, software and applications that relate to configuring Local Area Network (LAN) and a Wide Area Network (WAN). Popular network protocols and network operating systems will be covered in detail.

### **Prerequisite- Corequisite**

Prerequisite: CST 119 Computer Concepts and Applications.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discuss the various topologies used to construct computer networks.
2. Understand the differences between network devices such as hubs, switches and routers.
3. Explain the functions of each layer in the ISO/OSI and TCP/IP protocol stacks.
4. Install and/or configure a computer to participate on a network.
5. Troubleshoot networks using built in utility programs.
6. Use remote connectivity and file transfer programs.
7. Understand the role of client computers in the client server network paradigm.
8. Discover and implement various methods to mitigate risks and threats associated with networked computers.

## **CST 209 - Advanced Computer Networking**

This course provides an in depth exploration of current and next generation computer networking, data communication and telecommunication technologies including hardware, software, and applications. Students will gain experience with server class operating systems, server applications installation and configuration, client server application development tools, secure data transmission, network security fundamentals, and network management.

### **Prerequisite- Corequisite**

Prerequisite: CST 208W Introduction to Networking, CST 113 Introduction to C#.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discuss the various topologies used to construct computer networks.
2. Build networks using hubs, switches and routers.
3. Understand the function of each layer in the ISO/OSI and TCP/IP protocol stacks.
4. Install and/or configure a computer to participate in a secure network using VPNs.



5. Use advanced troubleshooting techniques to solve network problems.
6. Install and configure remote connectivity and file transfer programs.
7. Explain the role of server computers in the client server network paradigm, configure server applications, and develop/modify client server applications.
8. Implement various methods to mitigate risks and threats associated with networked computers.

## **CST 210 - Business Security**

This fourth security course concentrates on the security aspects related to business, including legal and ethical computing standards, security cost analysis, physical plant security, disaster recovery, business continuity, security policies and procedures, training, and careers in network security.

### **Prerequisite- Corequisite**

Prerequisite: CST 103 General Security Concepts

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe how to perform a security cost analysis.
2. Describe the various steps involved in analyzing physical plant security, and providing disaster recovery and business continuity.
3. Explain the different ways of detecting network-based intruders.
4. Understand how to perform forensic analysis on spam and spoofed email.
5. Be familiar with ethics, computer crime, and information privacy issues.
6. Know what security policies and procedures are required for an organization.

## **CST 212 - Computer Forensics I**

This first course in computer forensics introduces the student to the nature of real-world security incidents and forensic examples. The student is introduced to the Incident Response process, a multi-step approach to the detection, analysis, and recovery from a security incident. Critical skills including data collection and duplication, evidence handling, and writing a forensic report are explored. There are numerous real-world examples presented, as well as practical, hands-on activities designed to show the student how to properly, and legally, handle digital and physical evidence.

### **Prerequisite- Corequisite**

Corequisite: CST 208 Introduction to Networking.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe different types of security incidents and the appropriate response for each.
2. Describe the various steps involved in the incident response and recovery.
3. Explain the different ways of gathering digital evidence on Windows, Linux, and other operating systems.
4. Understand how to duplicate digital evidence and handle the evidence in a safe and legal manner.
5. Know what tools to use to gather digital evidence on a computer network.
6. Write a forensic report.

## **CST 213 - Database Systems**

A comprehensive course in database management with a focus on the effective use of database systems, database design, and application development with Access and Visual Basic for Applications. Topics will include database concepts and architecture for both micro and mainframe computers, creating tables, queries, forms and reports, object linking and embedding, SQL, macro programming, integrity constraints, concurrency control, and transaction processing.

### **Prerequisite- Corequisite**

Prerequisite: CST 119 Computer Concepts and Applications, and an introduction to programming course.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the advantages and disadvantages of database systems.
2. Describe and compare Relational, Network, and Hierarchical data models.
3. Design and create relational databases including tables, forms, queries, and reports.
4. Create and execute SQL queries.
5. Describe relational model views, indexes, catalogues, and integrity as they relate to databases.
6. Describe and implement normalization as it relates to databases.
7. Describe and implement database functions of concurrency, recovery, and security.
8. Generate custom database applications.
9. Program a database using macros.
10. Describe client/server systems and SQL servers.

## **CST 216 - Visual Basic.NET**

This course teaches the fundamentals of the Visual Basic language. The first part of the course concentrates on a detailed discussion of various Visual Basic controls, programming options and the use of Visual Basic tools. Once these concepts are mastered, the emphasis shifts toward integrating the various components into complete working applications. Emphasis will be placed on visual interfaces as well as problem solving.

**Prerequisite- Corequisite**

Prerequisite: 2 programming courses.

Credits: 3

**Hours**

2 Class Hours, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Be proficient in using the Visual Basic.NET environment to create, debug, and run programs.
2. Understand the fundamental syntax of Visual Basic.NET and the fundamental controls.
3. Appreciate the role and techniques of Rapid Application Development.
4. Demonstrate achievement of program clarity through proven techniques of structured programming, object-based programming, object-oriented programming and even-driven programming.
5. Understand and use the principles of good graphical user interface design and object-oriented design with UML.

**CST 219W - Socket Programming**

An introduction to network sockets programming, used to develop server and client server application programs for the Internet. The basic coverage of socket programming will include an overview of TCP/IP, network addressing, well known services, blocking and non-blocking sockets and support programs. The main emphasis will be placed on developing and debugging socket applications. Each student will write both UDP and TCP client server application programs.

**Prerequisite- Corequisite**

Prerequisites: CST 113 Introduction to Programming Using C# and CST 208W Introduction to Computer Networking.

Credits: 3

**Hours**

2 Class Hours, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the resources associated with developing client server applications.
2. Write client server applications using UDP, connectionless communications.
3. Write client server applications using TCP, connection oriented communications.
4. Use Domain Name Services to initiate communications with host computer systems.
5. Implement client applications which communicate with a remote server.
6. Develop client and server applications which run on a local computer system.
7. Use blocking and non-blocking sockets as required by program specifications.

## **CST 220 - Microprocessors and Assembly Language Programming**

This course includes an introduction to the 32-bit Intel architecture with programming techniques utilizing the Intel microprocessor and coprocessor family. Concepts include: programming modes, branching, flags, stacks, procedures, macros, interrupts, arithmetic and logic operations, multiple precision arithmetic and string operations. Extensive laboratory work is done on small systems.

### **Prerequisite- Corequisite**

Prerequisite: One structured programming language.

Corequisite: Co or Prerequisite: CST 170 Digital Logic.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the differences between 8, 16, 32 and 64-bit microprocessor architectures.
2. Write assembly language code demonstrating how 8, 16, 32 and 64-bit values can be used with software code.
3. Discuss and write code using the seven basic programming modes in assembly language.
4. Discuss and illustrate with programming code the use of branching, flags, stacks, procedures, macros, and interrupts.
5. Discuss and write programming code for the basic arithmetic and logic operations available in assembly language.
6. Discuss the need for and write code demonstrating multiple precision arithmetic.
7. Discuss the need for and the technique of using pointers in programming code.
8. Discuss string operations and write assembly language code demonstrating a variety of string operations including search and search & replace.
9. Discuss the need and operation of the mathematics coprocessor.
10. Discuss and write assembly language programming code using the coprocessor.
11. Write programming code using inline assembly language programming within a C++ program and with a stand alone assembler, such as MASM or TASM.

## **CST 222 - C# Essentials**

A fast paced introduction to the object-oriented C# programming. Course provides coverage of C# terms and definitions in addition to historical links to the C and C++ languages. This course is a continuation of CST 150 and provides additional programming detail in object-oriented programming techniques. Extensive laboratory assignments and projects are used in this course.

### **Prerequisite- Corequisite**

Prerequisite: CST 133 Structured Programming in C++.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours;



## **CST 225W - Introduction to Small Systems**

Introduction to the concepts and implementation of embedded and small computer systems. Topics include: the system architecture, software development environment, hardware interfacing techniques, processor capabilities, memory types, data busses, operating systems, telecommunications techniques, and networking. Use of several small systems in an online laboratory environment will reinforce the conceptual framework.

### **Prerequisite- Corequisite**

Prerequisite: CST 220 Microprocessors and Assembly Language Programming, CST 170 Digital Logic and CST 113 Introduction to C#.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the hardware architecture of computer systems.
2. Discuss the hardware architecture related to small systems.
3. Use simulation to design, create, and test practical hardware devices.
4. Identify the underlying features provided by a typical small system.
5. Write application programs which exploit the features of various small system hardware devices.
6. List security and management issues that affect small systems.
7. Use network troubleshooting tools to examine the communication between network devices.

## **CST 226 - Advanced Visual Basic.NET**

This course will help students develop advanced Visual Basic.NET programming skills including topics such as object-oriented design and programming, exception handling techniques, file-processing techniques, use of graphics and multimedia, connecting to database systems, retrieval and manipulation of database data through VB.NET, and an introduction to the use of Web forms, Web controls and dynamic Web content.

### **Prerequisite- Corequisite**

Prerequisite: CST 216 Visual Basic.NET or permission of instructor.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Be well prepared to programs in Visual Basic.NET and to employ the capabilities of the .NET platform to create business-oriented and professional programs.
2. Demonstrate an understanding of and an ability to apply the following skills and concepts through programming assignments, in-class and homework exercises, and in-class exams: object-oriented design and programming skills, exception handling techniques, file processing techniques essential for commercial applications including streams, use of graphics and multimedia, use of SQL, and ADO to connect to database systems, retrieve and manipulate data, and communicate it to other applications.

## **CST 228W - GDI Programming with C/C++**

This course is a natural extension of CST 150, C/C++ Programming for Programmers. The course teaches Graphics Device Interfacing (GDI) with Windows 98 and Windows NT Programming Concepts. Topics include programming advantages of a GDI environment, concepts and techniques. Icons, cursors, bitmaps, fonts, menus, dialog boxes, etc. are integrated into the GDI environment. Extensive programming and laboratory work matches the lecture topics. Writing emphasis course.

### **Prerequisite- Corequisite**

Prerequisites: CST 150 CC++ Programming with Objects.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours;

## **CST 231 - Web Development Packages**

Teaches students how to use Web Development Packages, provides an overview of current Web Development Packages, discusses the advantages and disadvantages of each, discusses issues specific to Web-site development including server requirements, system/user operating systems, end-user environments, screen resolutions, programming, maintenance, evolving standards and government mandated handicap access/features. Students will learn to use the industry's current Web Development Package, which at this time is Dreamweaver.

### **Prerequisite- Corequisite**

Prerequisite: CST 131 Web Development Languages.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate how to research good web page design.
2. Design and create a complete web page site using good design techniques with a local site.
3. Create web pages with tables and page layout, links, images, forms, templates and style sheets.
4. Create web pages with layers, image maps, and navigation bars.
5. Create web pages animation and behaviors, and media objects.

6. Demonstrate proficiency with all the above tools in the current popular web development package.
7. Demonstrate "teamwork" by working in a team to achieve good teamwork skills co-developing web pages.

## **CST 232 - Multimedia Web Enhancement**

To cover the broad field of multimedia Web enhancement and gain "hands-on" experience developing and adding this content to today's Websites. History of multimedia enhancements to Web development. Discuss the future for multimedia Web content. Discuss advantages and disadvantages of each multimedia type dealing with file size, storage requirements, transmission speeds, and resolutions. Discuss hardware requirements for both server and client side multimedia content. Discuss government mandated solutions to multimedia-enabled Websites.

### **Prerequisite- Corequisite**

Prerequisite: CST 231 Web Development Packages.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Create Flash files to enhance web pages.
2. Create web pages that are quick loading with multimedia items.
3. Edit photos and images with software such as Fireworks so that images are smaller in size, yet enhancing to web pages.
4. Create live web pages viewable over the internet.
5. Post to an internet site.
6. Protect a live internet site.
7. Address security issues with websites that are public.

## **CST 233 - Active Server Pages**

Active Server Pages (ASP) will provide students with the opportunity to learn about Microsoft ASP using Visual Studio.NET. Students will be introduced to concepts and techniques necessary to create ASP. NET applications that provides dynamic content for a Web site. The course will provide a background of legacy applications in addition to coverage of the NET development methodologies. Students will also develop ASP applications on both local and remote servers.

### **Prerequisite- Corequisite**

Prerequisites: CST 124 Introduction to CGI Programming, and CST 208W Introduction to Computer Networking.

Credits: 3

**Hours**

2 Class Hours, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Configure a local IIS web server to allow for ASP pages to be served.
2. Develop web pages and ASP programs on a local web server.
3. Develop ASP scripts/programs using different input methods.
4. Create and/or copy web pages to a remote web server using remote access tools.
5. Check the settings of a web server configuration file.
6. Manage state information to maintain continuity between ASP web pages.
7. Discover the latest technologies and techniques used to develop ASP web applications.

## **CST 242 - Computer Forensics II**

The second course in computer forensics takes the student deep into Windows and Linux. The student is introduced to many tools used to gather and analyze digital evidence. Critical skills are developed, including such data analysis methods as string searches, machine-code disassembly, log file analysis, data and file recovery, and both static and dynamic code analysis. Evidence from computers, networks, and routers are all captured and analyzed. Real-world examples, as well as hands-on activities, reinforce the material and concepts.

**Prerequisite- Corequisite**

Prerequisite: CST 212 Computer Forensics I.

Credits: 3

**Hours**

2 Class Hours, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the hardware fundamentals of computer storage, as in the operation of IDE and SCSI drives.
2. Describe the software fundamentals of computer storage, as in the operation of the FAT and NTFS file systems.
3. Describe the various methods available for analyzing data, including log file analysis, shell histories, recovering files, and file lists.
4. Explain the different ways of gathering digital evidence on Windows, Linux, and other operating systems.
5. Understand how to perform static and dynamic analysis on a hacker tool (virus, worm, etc.).
6. Know what tools to use to gather digital evidence from a suspicious program.
7. Know what tools to use to gather digital evidence on a computer network.
8. Know what information a string search, disassembly, and hexadecimal dump provide about a suspicious program.
9. Write a forensic report.



## **CST 297 - Cooperative Work Experience**

Cooperative education in computing may be available. On-the-job experience may be obtained by working with business, industries, and offices whose operations require the use of computers. To be eligible a student must maintain a cumulative grade point average of 2.5 with a 3.0 average in CST courses and have no "F" grades.

Credits: (1-3)

## **CST 299 - Independent Study**

The student undertakes an independent project, under the guidance of a faculty member, which is beyond the scope of courses currently offered by the department.

Credits: (1-3)

### **Note**

Only one independent study project allowed per semester.

## **CTP 275 - Community Internship**

For qualified students who seek an internship experience in order to explore or validate a career choice, or to render volunteer service to the community. Placements are available in non-profit, govt. or social service agencies as well as in public education and local hospitals.

### **Prerequisite- Corequisite**

Prerequisite: 24 credit hours, application, interview, good academic standing. Satisfies the Civic Education requirement.

Credits: (1-3)

### **Hours**

1 Class Hour; 6-9 hours per week;

## **DEN 101 - Dental Hygiene I**

An introduction to the skills utilized in the contemporary practice of dental hygiene. Included will be topics on patient assessment, therapeutic care (fluoride, instrumentation theory, selective polishing, instrument sharpening), as well as ergonomics for the hygiene practitioner. Theory is applied in preclinic laboratory setting. Clinical hours: 8 hr/week for 15 weeks.

### **Prerequisite- Corequisite**

Corequisite: DEN 108 Infection Control in Dentistry.

Credits: 4.5

**Hours**

2 Class Hours, 8 Clinical Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply ergonomic principles to the clinical practice of dental hygiene.
2. Develop large and small motor skills necessary to apply proper instrumentation principles in the laboratory setting.
3. Identify any hygiene instrument and describe where and how it is used on the dentition.
4. Apply proper infection control protocol to the entire appointment sequence.
5. Demonstrate professionalism and treat faculty, peers, and staff with respect.
6. Obtain and review a comprehensive health history and assess the potential health conditions that may require treatment alterations or intervention to maintain safe, quality care.
7. Recognize the need for a comprehensive history to plan comprehensive care.
8. Identify dental hygiene instruments and describe how and when they are used.
9. Understand the concept of selective polishing and apply the rationale for its use to the clinical setting.
10. Understand the rationale and method for instrument sharpening.

Intended Learning Outcome:

It is intended that each student who completes DEN 101 will have a basic understanding of the importance of patient assessment from obtaining a medical history to examining the hard and soft tissues of the oral cavity and will be competent in performing those skills. Each student will also be competent in basic instrumentation skills.

## **DEN 102 - Dental Hygiene II**

Theory and clinical experience in dental hygiene process of care, including patient assessment, treatment planning, instrumentation, and evaluation of patient care. includes patients with special needs, tobacco cessation intervention, oral physiotherapy, medical/dental emergencies, identification and reporting of child abuse, and oral health instruction. Clinical hours: 8 hrs/week for 15 weeks.

**Prerequisite- Corequisite**

Prerequisites: DEN 101 Dental Hygiene I, DEN 103 Oral Anatomy and Physiology, DEN 108 Infection Control in Dentistry, DEN 109 Dental Ethics and Jurisprudence, BIO 131 Human Biology I, ENG 110 College Writing I.

Corequisites: DEN 106 Clinical Dental Radiography, DEN 107 Introduction to Periodontology, DEN 110W Dental Materials.

Credits: 5.5

**Hours**

3 Class Hours, 8 Clinical Hours

## **Course Profile**

### **Learning Outcomes of the Course:**

Upon successful completion of this course the student will be able to:

1. Understand the concepts of patient assessment, individualized treatment planning, implementation and evaluation and begin to apply this information in the clinical setting.
2. Develop appropriate and specific treatment plans based on patient need.
3. Understand and explain basic terminology related to oral physiotherapy.
4. Understand the importance of oral health instruction and patient rapport as an integral part of providing patients with optimum dental hygiene care.
5. Apply concepts of oral physiotherapy and oral health instruction to personal needs, while appreciating the importance of being a role model for patients in terms of one's own oral health status and lifestyle choices.
6. Develop their own style of effectively interacting with patients, while displaying sensitivity to their patients' needs and problems.
7. Understand the value of visual and printed materials in providing patient education and for increasing oral health awareness.
8. Understand tobacco use intervention strategies that will be applied in the senior year.
9. Understand and apply dental hygiene treatment adaptations for patients with special needs, including the gerodontic patient.
10. Provide oral health education in a community-based setting (service learning) via offsite bulletin board construction.
11. Treat patients while meeting objectives set forth in the DH II Clinic Manual.

### **Intended Learning Outcomes:**

DEN 102 Dental Hygiene II will prepare the freshman student to carry out the dental hygiene process of care, including patient assessment, radiographs, dental hygiene diagnosis, treatment planning, implementation of prevention and therapeutic procedures and evaluation of treatment. The student will practice and learn the appointment sequence, as well as interact with patients, peers, and faculty in a professional manner while providing preventive oral hygiene services in the clinical setting.

## **DEN 103 - Oral Anatomy and Physiology**

Normal structure and function of the oral cavity (microscopic and gross). Laboratory sessions include study of dental terminology, occlusion, tooth morphology, and head and neck anatomy.

Credits: 3

### **Hours**

2 Class Hours, 3 Laboratory Hours

### **Course Profile**

#### **Learning Outcomes of the Course:**

Upon successful completion of this course the student will be able to:

1. Understand the oral histology and embryology and macroscopic dental anatomy necessary for the prudent practice of clinical dental hygiene.
2. Identify the normal landmarks of the oral cavity.
3. Understand and apply the components of occlusal evaluation.

4. Identify the anatomical features of the permanent and primary dentition.
5. Identify the anatomical structure of the head and neck.

**Intended Learning Outcomes:**

The intended objective of this course is to enable students to apply the oral histology and embryology and the macroscopic oral and dental anatomy necessary for the prudent practice of clinical dental hygiene. Knowledge and understanding of the material in this course will also assist students in their efforts to provide patients with thorough and correct information. Inherent in the intended objective is the necessity for this course to provide students with the opportunity to learn the material needed for success in the courses for which this course is prerequisite.

## **DEN 106 - Clinical Dental Radiography**

Radiation physics and biology; understanding of radiation health, safety and protection; radiographic quality, intraoral dental radiographic techniques, film processing and mounting, interpretation of radiographic errors and recognition of anatomical landmarks. Theory is applied in the laboratory setting on radiographic phantoms and adult patients.

**Prerequisite- Corequisite**

Corequisite: DEN 102 Dental Hygiene II, DEN 107 Introduction to Periodontology, DEN 110W Dental Materials.

Credits: 2

**Hours**

1 Class Hour, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the production of x-radiation.
2. Understand the exposing and processing factors used to control the production of a quality radiograph.
3. Understand the biological effects of radiation.
4. Understand the safety factors necessary to make radiation as safe as possible for the patient and the dental hygienist.

**Intended Learning Outcome:**

Upon successful completion of this course the student will be able to:

1. Expose and process quality intraoral films while adhering to all radiation safety requirements.

## **DEN 107 - Introduction to Periodontology**

Clinical and histological evaluations of gingivitis and periodontitis; study of the periodontium, the inflammatory and immune responses, and microbiology of plaque.



**Prerequisite- Corequisite**

Corequisites: DEN 102 Dental Hygiene II, DEN 106 Clinical Dental Radiography, DEN 110W Dental Materials.

Credits: 1

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe clinically normal and abnormal gingiva using the descriptors in the Gingival Evaluation in the Appraisal Packet.
2. Understand the structures of the periodontium which leads to understanding the assessment and treatment of periodontal disease.
3. Understand the inflammatory and immune responses as they relate to the pathogenesis of Gingivitis and Chronic Periodontitis.
4. Understand the characteristics and pathogenicity of the microbes associated with gingivitis and chronic periodontitis.

Intended Learning Outcome:

This course introduces students to the basic parameters of periodontal disease. This involves understanding the tissues of the periodontium, their response to plaque, and clinical manifestations.

**DEN 108 - Infection Control in Dentistry**

An overview of the infectious agents that the dental team is exposed to while working in the dental office setting. Course focuses on the study of the rationale for practicing infection control as well as how to perform proper infection control procedures and apply those guidelines in their clinical laboratory setting. Topics also include the regulatory agencies responsible for the protocol and the guidelines that they set.

**Prerequisite- Corequisite**

Corequisite: DEN 101 Dental Hygiene I.

Credits: 1

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the rationale for practicing disease prevention that is specific to dentistry.
2. Understand and describe the role of the various recommending and regulatory agencies that affect the dental profession and its infection control practice.
3. Understand the OSHA Bloodborne Pathogens Standard.

4. Be proficient in the use of infection control techniques that are required in the dental setting for both personal and patient safety.

**Intended Learning Outcome:**

Upon successful course completion, each student should have a comprehensive understanding of the rationale for practicing Infection Control in Dentistry. Each student will also gain the training for implementing safe infection control practices in accordance with guidelines from OSHA, the CDC, and other agencies. The student will learn to read an MSDS insert, understand the importance of a hazard communication program, and learn the infection control protocol for the BCC Dental Hygiene Clinic.

## **DEN 109 - Dental Ethics and Jurisprudence**

Ethics and ethical issues; jurisprudence and legal considerations in dentistry and dental hygiene. This course includes the study of vocabulary and theoretical models important in determining ethical behavior and identifying legal concepts in dentistry and dental hygiene today.

Credits: 1

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe basic concepts involved in ethics and professionalism.
2. Describe key ethical theories and principles.
3. Explain the importance of codes and ethics.
4. Develop an awareness of ethical issues in dentistry and dental hygiene.
5. Apply a decision-making model to ethical dilemmas.
6. Describe the legal system as it relates to dentistry and dental hygiene.
7. Identify legal parameters found in the NYS Practice Act.
8. Explain legal concepts affecting the hygienist's relationship with patients and dentists.
9. Identify legal issues affecting the practice of dentistry and dental hygiene.

**Intended Learning Outcomes:**

The course provides necessary background information essential for the entering dental hygiene student to understand how the career of dental hygiene is bound by legal issues and intertwined with expected ethical behaviors. Each student will gain this understanding of the dental hygiene career and its legal parameters through the study of its basic ethical and professional concepts along with the NYS Dental Hygiene Practice Act.

## **DEN 110W - Dental Materials**

Composition, chemical and physical properties and use of materials in dental laboratory and operator will be covered. Laboratory sessions will provide experience in performing common dental laboratory

procedures including their clinical application of expanded functions. In addition, the laboratory allows for the manipulation of dental materials.

**Prerequisite- Corequisite**

Corequisites: DEN 102 Dental Hygiene II, DEN 106 Clinical Dental Radiography, DEN 107 Introduction to Periodontology.

Credits: 2

**Hours**

1 Class Hour, 3 Laboratory Hours

**Note**

This course is designated as a writing emphasis course.

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Be familiar with and able to competently use several common dental materials.
2. Identify which of those comprehensive services that may be performed by a registered dental hygienist in the State of New York.
3. Demonstrate the proper procedures for taking alginate impressions, pouring alginate impressions, fabricating a sports mouthguard, amalgam polishing, placing periodontal packing, placing and removing a rubber dam, suture removal, selecting and pre-fitting orthodontic bands and removing arch wires.
4. Apply proper infection control protocol to all aspects of dental laboratory and clinical procedures.

**Intended Learning Outcome:**

At the completion of this course, the student should be familiar with and be able to use several common dental materials to lab competency. This course will provide the student with a comprehensive knowledge base of the various properties and types of dental materials, particularly those used in the practice of dental hygiene. In addition, this course will prepare the student to be able to write effectively and professionally and to become an effective team player with excellent communication skills. The student will learn to recognize and manipulate several dental materials as well as to perform those functions that are deemed duties of the dental hygienist in New York State so the he/she may practice within the full scope of licensure in private practice.

**DEN 201 - Dental Hygiene III**

Continuation of DEN 102 Dental Hygiene II. Integration of theory with clinical experience in various oral hygiene preventive and therapeutic procedures. Emphasis on planning and execution of the total patient treatment (including tobacco cessation). Students are required to provide direct patient care at various community based clinics. Clinical hours: 12 hrs/week for 15 weeks.

**Prerequisite- Corequisite**

Prerequisites: DEN 102 Dental Hygiene II, DEN 106 Clinical Dental Radiography, DEN 107 Introduction to Periodontology, DEN 110W Dental Materials, BIO 132 Human Biology II, CLT 208/209L Pathogenic

Microbiology/Lab or BIO 150 Microbiology.

Credits: 6

**Hours**

2 Class Hours, 12 Clinic Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the purpose and procedures involved in basic ultrasonic instrumentation.
2. Perform a complete and thorough head and neck exam, including an oral cancer exam, on all of his/her patients and be able to document properly significant clinical findings.
3. Explain the incidence, predisposing factors, and treatment of the oral cancer patient.
4. Exhibit developing proficiency in traditional and digital radiographic techniques on patients and be able to interpret basic landmarks and oral structures found on radiographs. In addition, common exposure, processing and film handling errors will be covered.
5. Recognize caries, restorative materials, incipient and advanced periodontal disease, endodontic therapy, root formation, retained roots, appliances and supernumerary teeth.
6. Chart the patient's mouth for periodontal and dental manifestations using conventional paper charting and computer software technology.
7. Assess the patient's need for a fluoride treatment and properly perform this treatment utilizing fluoride tray treatments or fluoride varnish treatments.
8. Discuss the purpose, procedures, and treatment planning involved in the placement of dental sealants.
9. Describe and provide proper patient management of the cancer patient.

Intended Learning Outcome:

This course integrates theory with clinical dental hygiene in various preventive and therapeutic procedures such as: assessments and treatment plans for total patient treatment and their performance on clinic patients, ultrasonic instrumentation, oral cancer screenings, dental/periodontal charting, radiographic interpretation, fluoride treatments, dental sealant placement, and oral care for the cancer patient.

## **DEN 202 - Dental Hygiene IV**

Comprehensive clinical experience in all phases of dental hygiene practice. Students are prepared for entry level Dental Hygiene Practice. Clinical hours: 12 hrs/week for 15 weeks.

**Prerequisite- Corequisite**

Prerequisites: DEN 201 Dental Hygiene III, DEN 203 Pain Management in Dentistry, DEN 204 General and Oral Pathology, DEN 205 Periodontology, DEN 206 Dental Pharmacology and DEN 209 Dental Nutrition.

Corequisites: DEN 214 Current Topics in Dental Hygiene, DEN 213W Community Dental Health.

Credits: 6

**Hours**



2 Class Hours, 12 Clinical Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define and demonstrate the process of periodontal screening and recording.
2. Demonstrate and be proficient in the use of an intraoral camera.
3. Define/discuss the rationale for advanced ultrasonic instrumentation.
4. Complete a DH IV project; which consists of comprehensive non-surgical periodontal treatment and necessary nutrition counseling to a patient.
5. Understand the principles of panoramic projections.
6. Understand the rationale for air polishing.
7. Define/discuss the practice of desensitization.
8. Understand the concepts of cephalometric tracings.

Intended Learning Outcome:

Through lecture, guest speakers and practical application in a clinical setting, students will become proficient in providing patient with all aspects of care, including but not limited to advanced instrumentation, local anesthesia, oral irrigation, non-surgical periodontal therapy, nutrition counseling, phase microscopy and case presentation. Students will continue developing proficiency in all radiographic techniques, as well as further implementation of computer technology during patient treatment. This prepares students for clinical and written licensing exams as well as entry level dental hygiene employment.

## **DEN 203 - Pain Management in Dentistry**

Management of pain control through the use of local anesthetic agents and the administration of nitrous oxide and oxygen sedation. The physiologic and pharmacologic agents, indications and contraindications for use, and the treatment of complications and emergencies are stressed. Other modalities of pain control will be discussed. This course meets the New York State Education Department's requirements for certification in the Administration and Monitoring of Local Infiltration Anesthesia and Nitrous Oxide Analgesia in the Practice of Dental Hygiene. Enrollment in this course requires documentation of current certification in CPR (BLS for Health Professionals).

### **Prerequisite- Corequisite**

Prerequisites: DEN 102 and current certification in CPR (BLS for Health Professionals)

Corequisites: DEN 201 Dental Hygiene III, DEN 204 General and Oral Pathology, DEN 205 Periodontology, DEN 206 Dental Pharmacology, DEN 290 Dental Nutrition.

Credits: 2

### **Hours**

1 Class Hour, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe relevant New York State Education Law and Commissioner's Regulations.
2. Demonstrate proper medical history review and evaluation procedures.
3. Differentiate the pediatric and adult respiratory and circulatory physiology and related anatomy.
4. Describe states of drug-induced central nervous system depression through levels of anxiolysis, conscious sedation, deep sedation and general anesthesia.
5. Identify definitions and descriptions of physiological and psychological aspects of anxiety and pain.
6. Define pharmacology of agents used in inhalation sedation, local anesthesia and vasoconstrictors, including drug interactions and incompatibilities.
7. Identify indications and contraindications for use of inhalation sedation and local anesthesia.
8. Identify recommended dosages of local anesthesia and nitrous oxide analgesia.
9. Describe patient monitoring using observation, with particular attention to vital signs and reflexes related to consciousness.
10. Differentiate selection and preparation of the armamentaria and record keeping for administering various local anesthesia agents and nitrous oxide analgesia.
11. Identify recognition and management of complications and management of reactions to local anesthetic agents and nitrous oxide analgesia.
12. Describe proper infection control techniques with regard to local anesthetic and nitrous oxide analgesia and proper disposal of sharps.
13. Identify the description and use of inhalation sedation equipment.
14. Define the introduction to potential health hazards of trace anesthetics and proposed techniques for limiting occupational exposure such as appropriate scavenging systems.
15. Describe abuse potential and hallucinatory effects of nitrous oxide analgesia.
16. Identify post-operative care of the patient and instruction to the patient.
17. Complete a course in basic life support (BLS) prior to the start of the course.
18. Selection and preparation of the armamentaria for administering various local anesthetic agents and nitrous oxide analgesia, including demonstrations regarding scavenging systems.
19. Demonstration of proper infection control techniques with regard to local anesthetic agents and nitrous oxide analgesia and proper disposal of sharps.
20. Demonstration of proper evaluation of the patient's health status, taking the patient's vital signs and monitoring the patient's physical status while under the effects of local anesthesia and/or nitrous oxide analgesia.
21. Administration of local anesthetic in conjunction with inhalation sedation techniques.
22. A clinical experience, under the personal supervision of a licensed dentist, demonstrating the successful use of local infiltration in no fewer than 15 instances involving the treatment of a patient, provided that no individual patient may be treated more than three times; and a clinical experience demonstrating the successful use of nitrous oxide analgesia in no fewer than 15 instances involving the treatment of a patient, provided that in no such instance may an individual patient be treated more than two times.

#### Intended Learning Outcome:

Upon completion of this course, the student will be able to consistently give infiltration injections of local anesthetic that are safe and effective with minimal discomfort. The participant will also be able to provide nitrous oxide analgesia using safe and effective techniques with the understanding of the indications, contraindications and environmental safety considerations. DEN 203 - Pain Management will prepare the senior dental hygiene student to carry out the dental hygiene process of care involving proper pain management utilizing patient assessment, dental hygiene diagnosis, treatment planning, implementation and evaluation of treatment. The student will be able to provide appropriate life support measures for medical emergencies that may be encountered in dental hygiene practice while providing pain management. The student will implement problem solving strategies (critical thinking and decision - making skills) when providing pain management during comprehensive patient care and management of patients.

## DEN 204 - General and Oral Pathology

A broad picture of the disease process through the study of common general diseases, their etiology, results and treatment. Emphasis on the principles of inflammation, healing and repair, oral disease, including etiology, pathogenesis, prognosis, recognition and treatment.

### **Prerequisite- Corequisite**

Corequisite: DEN 201 Dental Hygiene III, DEN 203 Pain Management in Dentistry, DEN 205 Periodontology, DEN 206 Dental Pharmacology.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Distinguish between normal and abnormal oral and head and neck findings.
2. Discuss (using appropriate terminology) common abnormalities viewed orally and in the head and neck region.
3. Recognize, describe, and identify various lesions manifested in and about the oral cavity.
4. Recognize and describe signs, symptoms, and clinical features of systemic disease.
5. Understand various medical conditions which may affect dental or dental hygiene treatment.
6. Understand, describe and interpret pathology viewed on dental radiographs, slides, and photographs.

Intended Learning Outcome:

Upon completion of DEN 204 General and Oral Pathology, the student will be able to recognize, distinguish between, discuss and understand the possible pathogenicity of normal and abnormal oral and head and neck findings, including oral manifestations of systemic disease. This knowledge and skill will enable the student to identify and report oral pathology discovered during extra/intraoral examination, one of the most valuable services that the dental hygienist provides for patients.

## DEN 205 - Periodontology

A study of Periodontology as it relates to the practice of dental hygiene. Emphasis on classification of periodontal disease, assessment, Phase I Therapy, maintenance and fundamentals of periodontal surgery.

### **Prerequisite- Corequisite**

Prerequisite: DEN 201 Dental Hygiene III.

Corequisites: DEN 201 Dental Hygiene III, DEN 203 Pain Management in Dentistry, DEN 204 General and Oral Pathology, DEN 206 Dental Pharmacology, DEN 209 Dental Nutrition.

Credits: 2



**Hours**

2 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the pathogenesis of periodontal disease.
2. Understand the models for periodontal disease and the associated local and systemic risk factors.
3. Prepare a matrix on the Classification of Periodontal Disease using the etiology associated microbes, oral manifestations and extraordinary treatment.
4. Understand the assessment mechanisms for periodontal disease including: medical history, BOP, CAL, PD, severity, extent, and radiograph findings.
5. Prepare treatment plans for gingivitis, slight, moderate, and severe chronic periodontitis using evidence-based approach.
6. Understand the mechanical methods utilized in non-surgical periodontal therapy.
7. Understand the parameters of chemical agents utilized in periodontal pharmacology.
8. Prepare a matrix which reports the type of interdental aid used to maintain different types of embrasures.
9. Understand the different types of periodontal surgery and their purpose for repair and regeneration.
10. Understand the parameters of dental implants.
11. Understand and apply the guidelines for periodontal maintenance for both gingivitis and chronic periodontitis.
12. Report the controlling factors in the epidemiology of gingivitis and chronic periodontitis.

Intended Learning Outcome:

The outcome of this course is to enable students to identify periodontal disease using both scientific and clinical determinants. This will result in selecting the best treatment modalities and preventive measures.

## **DEN 206 - Dental Pharmacology**

Pharmacology as it affects the clinical practice of dental hygiene and dentistry. Emphasis is on drugs commonly used in dentistry and correct methods for their use. Also covers the major drug classes and their uses.

**Prerequisite- Corequisite**

Co-requisite: DEN 201 Dental Hygiene III, DEN 203 Pain Management in Dentistry, DEN 204 General and Oral Pathology, DEN 205 Periodontology, DEN 209 Dental Nutrition.

Credits: 2

**Hours**

2 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:



1. Define and use the vocabulary and terminology associated with dental pharmacology.
2. Use reference books to learn about unfamiliar drugs.
3. List the major classes of drugs and their actions and uses.
4. Describe and demonstrate the basic components of writing prescriptions.
5. List and describe of drugs commonly used in dentistry, particularly local anesthetics.

Intended Outcomes of the Course:

Upon completion of DEN 206 Dental Pharmacology, the student will be able to define the basic principles of pharmacology, list the different classifications of drugs and describe how they relate to dentistry.

## **DEN 209 - Dental Nutrition**

Basic nutrition principles, including metabolism, functions, sources, and conditions resulting from excessive or inadequate intake of each nutrient. Study of diet planning, dietary guidelines, weight control, and current nutrition topics and controversies. Special emphasis on the relation of nutrition to the oral cavity, interviewing, nutritional counseling, computer aided dietary analysis, and its practice in the dental office.

### **Prerequisite- Corequisite**

Corequisites: DEN 201 Dental Hygiene III, DEN 203 Pain Management in Dentistry, DEN 204 General and Oral Pathology, DEN 205 Periodontology.

Credits: 2

### **Hours**

2 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define/discuss basic terms/concepts related to nutrition.
2. List the functions, sources and conditions resulting from excessive or inadequate intake of various nutrients.
3. Discuss current nutrition controversies.
4. Apply nutrition concepts to personal nutrition.
5. Discuss the relationship between nutrition and the oral environment.
6. Apply nutrition concepts to clinical dental hygiene practice (nutrition counseling).
7. Make portfolio of current topics in Nutrition Upon.

Intended Learning Outcome:

The student will be proficient in the basics of Nutrition and its relationship to oral health. In addition, the student will provide Nutrition Counseling to a periodontally involved patient as part of comprehensive dental hygiene treatment.

## **DEN 213W - Community Dental Health**

A study of the principles of public health and fundamentals of assessing, planning, implementing and evaluating of public health care with emphasis on community dental health. Laboratory experience emphasizes reading scientific literature, statistics, community health education, and partnerships with community health agencies. Emphasis is place on service learning.

**Prerequisite- Corequisite**

Corequisites: DEN 202 Dental Hygiene IV, DEN 214 Current Topics in Dental Hygiene.

Credits: 2

**Hours**

1 Class Hours, 2 Laboratory Hours

**Note**

This course is designated as a writing emphasis course.

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain basic principles of public health.
2. Explain the fundamentals of public health including: assessing, planning, implementing, and evaluating public health care.
3. Read and understand evidence-based, scientific literature and statistics.
4. Provide successful community health education.

**Intended Learning Outcome:**

Lecture - Understand the principles of public health and dental public health, the methods of oral epidemiology, the prevalence and control methods, and there order of importance and effectiveness. To understand the process and principles of assessing, planning, implementing and evaluating community dental health programs and to understand dental care in the United States, including the delivery and financing of one and the role of the dental professional.

Laboratory - Understand the role of research in dental public health and the importance of scientific literature, have a basic understanding of statistics as it relates to public health and dental public health and become familiar with the role of dental health promotion and education as it relates to the community. To participate in community health projects which allow the student "in-the-field" experience with community agencies.

## **DEN 214 - Current Topics in Dental Hygiene**

Review of current topics relevant to the contemporary practice of dental hygiene, including dental specialties, risk management and the hygienist's role in the care of special patients. Emphasis is on case-based learning and patient case presentation derived from the student's clinical experience.

**Prerequisite- Corequisite**

Corequisite: DEN 202 Dental Hygiene IV.

Credits: 3

**Hours**

3 Class Hours

## **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the role of the dental hygienist as a caregiver for patients with special needs.
2. Understand those physical conditions that may necessitate treatment alterations and understand the evidence-based rationale for those treatment modalities.
3. Understand the Americans With Disabilities Act and the role it plays in advocating accessibility for patients with special needs.
4. Apply the concepts of evidence-based care to patient assessment, treatment planning, implementation, and evaluation of all patients.
5. Apply these concepts of evidence-based care to the investigation and evaluation of case studies in preparation for the National Board Examination as well as the student's individual Non-Surgical Periodontal Therapy Project.
6. Understand and apply the concepts of risk management as it relates to the practice of dental hygiene.
7. Understand and apply the NYS Syllabus for the Identification and Reporting of Child Abuse and Maltreatment.
8. Gain the appropriate skills for preparing a cover letter and resume.
9. Enrichment of Cultural Diversity through interaction with the BCC International Student Organization.

Intended Learning Outcome:

This capstone course covers a variety of current issues relating to dental hygiene practice. The course encompasses dental hygiene care for patients with special needs; case-based presentations utilizing computerized dental technology as well as additional topics relating to the practice of dental hygiene. The patients with special needs topics include areas not covered thus far in the curriculum. This course has been designed to provide the student with the additional knowledge necessary to provide comprehensive dental hygiene care to their diverse pool of patients.

In addition, the case-based learning component continues to prepare the student for evidence-based contemporary dental hygiene practice. Participation in a mock-board simulation is also included.

## **DEN 298 - Independent Study-Fall/Spring**

Advanced studies in Dental Hygiene conducted under the guidance of a Dental Hygiene instructor.

### **Prerequisite- Corequisite**

Prerequisites: DEN 101 Dental Hygiene I, DEN 102 Dental Hygiene II, and permission of Department Chairperson.

Credits: (1-3)

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate the ability to work independently to achieve a goal.
2. Demonstrate proficiency in the specific area of study.

## **DEN 299 - Independent Study-Fall/Spring**

Advanced studies in Dental Hygiene conducted under the guidance of a Dental Hygiene instructor.

### **Prerequisite- Corequisite**

Prerequisites: DEN 101 Dental Hygiene I, DEN 102 Dental Hygiene II and permission of Department Chairperson.

Credits: (1-3)

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate the ability to work independently to achieve a goal.
2. Demonstrate proficiency in the specific area of study.

## **DMR 210 - Data Base Information Management for Marketing**

This course emphasizes three levels of Electronic Data Base Management: Targeting and profiling techniques; segmentation strategies; and data and list sources/issues. Various aspects of data merge-match problems and solutions are examined, as well as development of yardsticks for measurement and testing resulting materials.

### **Prerequisite- Corequisite**

Prerequisite: BUS 238 Marketing Research.

Credits: 3

### **Hours**

3 Class Hours;

## **DMR 220 - Direct Marketing**

This course is a specialty within the field of theoretical marketing, and focuses on those components unique to Direct Marketing: Channels of Distribution and Promotion, and the Development of Databases, as a means of product and service delivery to specifically identified customers. The course concentrates on the interactive system of direct marketing that uses one or more advertising media to effect a measurable response at a specified location. It incorporates those aspects of Direct Marketing related to successfully identifying both Final and Organizational Consumer needs, as well as the direct mode of delivery and promotion to accomplish established goals.

### **Prerequisite- Corequisite**

Prerequisite: BUS 141 Marketing or permission of the instructor.

Credits: 3



**Hours**

3 Class Hours;

**DMR 295 - Qualitative Marketing Research Methodologies**

This course integrates the social sciences and business in a mutual focus toward an interpretive, qualitative, approach to conducting research. Qualitative methodologies in research models utilize structured and unstructured interviewing, such as brainstorming, nominal group techniques, focus groups, as well as survey design and other textual analysis and ethnography. This qualitative approach to solving business problems will combine the social sciences and humanities in the generation and interpretation of data linking business research to social and economic change. This will help students more fully understand the technological revolution and the relationship of the business researcher to research beyond the statistical models most commonly used.

**Prerequisite- Corequisite**

Prerequisite: BUS 238 Marketing Research.

Credits: 3

**Hours**

3 Class Hours

**ECE 101 - Introduction to Family Day Care**

Introduction of principles of regulated family day care including preparing the home as a learning setting, activity planning and guidance of mixed age groups, small business management and parent/provider relationships.

Credits: 1

**Hours**

3 Class Hours - 5 Weeks

**ECE 102 - Introduction to Working in School Age Child Care**

Developmental characteristics of 5-12 year olds, programming for that age in extra-school settings, preparing the environment for safety and learning, and appropriate guidance of school age children in groups.

Credits: 1

**Hours**

3 Class Hours-5 Weeks

**ECE 103 - Introduction to Children With Special Needs**

Overview of recognizing, understanding and helping children with special needs to be included in early childhood programs as well as dealing with parents and referral agencies.

Credits: 1

**Hours**

3 Class Hours-5 Weeks

## **ECE 106 - Child Care Field Experience**

This course will guide students in their role as practicing teachers in infant or toddler environments. Topics will include the students' teaching experiences and current issues in early childhood education. Students will enhance knowledge of content areas as well as learn about how children develop socially, physically, linguistically, intellectually, creatively and emotionally through positive teacher-child interactions. Students will be observed by the instructor and commit 30 hours of teaching in an infant or toddler classroom or program. Field experiences are mandatory.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Develop professional and ethical behavior towards children, staff and families via field experiences and written reflections.
2. Exhibit knowledge of child development by choosing, planning and developing curriculum activities appropriate for the age and development stage of the children they are assigned to via field experiences and written assignments.
3. Communicate with infants and toddlers at their level of understanding via field experiences.
4. Utilize positive child guidance strategies (i.e. role modeling, redirection, and problem solving) with infants and toddlers via field experiences and written reflections.
5. Observe, evaluate and report on the early childhood classroom and program regarding issues of health and safety via field experience and written assignments.

## **ECE 110 - Introduction to Early Education**

This course is an introduction to early childhood and elementary school education. ECE 110 will provide an overview of professionalism, child development, learning theories with a historical perspective, family involvement, contemporary issues in education, and career options within the field of education. Students will also explore the definition and concept of developmentally appropriate practice for young children (infants through eight years old). Field observation and community service experiences are mandatory. ECE 110 is required for A.A.S. Early Childhood Education majors and L.A.G.S. Teacher Education (A.S. Degree) transfer majors.

Credits: 3

**Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the history, philosophy and ethics of early childhood and elementary education via class discussions and written assignments.
2. Define and identify developmentally appropriate practice in accordance with various ages and stages of development via class discussions, written assignments and field observation experiences.
3. Demonstrate an understanding of child development in the context of family via class discussions and written assignments.
4. Apply critical thinking, problem solving, and self-reflection skills to class discussions, written assignments, field observation experience and related community service.
5. Articulate in writing career goals and pathways to reach them.

## **ECE 120 - Curriculum Development**

This course concentrates on developing curriculum for young children (infants through eight years old). Methods and materials for planning developmentally appropriate activities will be explored. Literacy, mathematics, science, social studies, the arts, technology, health and safety topics will be addressed. Students will create and practice lessons in local early childhood settings. Other course topics include: creating anti-bias environments; the mechanics of lesson planning; positive child guidance; differentiated instruction; assessment and; the value of self-reflection for professional growth. Field and community service experiences are mandatory. ECE 120 is required for A.A.S. Early Childhood Education majors and L.A.G.S. Teacher Education (A.S. Degree) transfer majors.

### **Prerequisite- Corequisite**

Prerequisite: ECE 110 Introduction to Early Education and ECE 175 Techniques of Observation

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe child development and learning theories relevant to young children and how they relate to childrens' development and learning via class discussions, field experiences and written assignments.
2. Recognize the ecological relationships that exist between family, community and curriculum as they relate to childrens' development and learning via class discussions, field experiences and written assignments.
3. Utilize observation and evaluation as a basis for developmentally appropriate curriculum via class activities, field experiences and written assignments.
4. Select developmentally appropriate approaches to teaching young children via class discussions, field experiences and lesson plan assignments.
5. Facilitate knowledge acquisition and dispositions for learning in all content areas (literacy,

mathematics, social studies, science, the arts, health and technology) via class activities, field experiences and written assignments.

## **ECE 145 - Children and the Arts**

This course explores the creative arts process in art, drama, literature, music and movement in early childhood education. Students will learn to integrate the arts into planned curriculum by providing innovative experiences for young children. Students will also understand the role of the arts in young children's education as well as how to choose and use multicultural fine artworks, music and literature, how to use the arts in inclusionary practice, and how to assess children's artistic progress through discussion and analysis of current research and theory in the teaching of the arts.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Develop skills in organizing and presenting ideas effectively through writing essays and activity plans, working in cooperative groups, participating in discussions, and making oral presentations to the class.
2. Describe their philosophy of arts education based on assigned readings, observations of children, studio projects and journal reflections.
3. Consider young children's and families' special needs, race, cultural backgrounds and religious beliefs in designing and selecting appropriate arts activities for children via class discussions, written reflections and observations of children.

## **ECE 155 - Language and Literacy in Early Childhood**

This course examines the development of language and literacy in young children (infants through eight years old). Students will explore theoretical foundations of early literacy development and the implementation of various models to effectively support young children as listeners, speakers, readers and writers. Other topics include: working with families to support language and literacy development; selecting quality children's literature for effective instruction; evaluating early literacy development using formal and informal assessment methods; integrating language and literacy throughout the curriculum and; adaptations for individual children in diverse and inclusive settings.

Credits: 3

### **Hours**

3 Class Hours



## **Course Profile**

### **Learning Outcomes of the Course:**

Upon successful completion of this course the student will be able to:

1. Describe and critically evaluate the historical, philosophical, theoretical and practical foundations of early literacy development and instruction via class discussions, written assignments and examinations.
2. Identify the developmental stages of language and literacy acquisition via class discussions, activities, written assignments and examinations.
3. Outline the criteria for quality children's literature via class discussions, written assignments and presentations.
4. Define the role and recognize the importance of family in language and literacy development in young children as well as develop strategies for successful partnerships with family members via class discussion, written assignments and presentations.
5. Demonstrate practical knowledge and skill in planning and implementing developmentally appropriate language and literacy experiences for young children via class discussions, written assignments and presentations.
6. Differentiate between assessment strategies and tools as well as identify particular strengths and weaknesses of each via class discussions and written assignments.

## **ECE 175 - Techniques of Observation and Evaluation**

This course presents various methods used to document and evaluate the development of young children (infants through eight years old) in structured and unstructured situations. ECE 175 will highlight the value of keen observation in order to record and assess the social, physical, language, intellectual, creative and emotional development in young children. Ethics, confidentiality, accountability, communicating with families, portfolio organization, developmental milestones, individual strengths and challenges, developmental delays and special needs are some of the topics that will be addressed. Field observation and community service experiences are mandatory. ECE 175 is required for A.A.S. Early Childhood Education majors and L.A.G.S Teacher Education (A.S. Degree) transfer majors.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

#### **Learning Outcomes of the Course:**

Upon successful completion of this course the student will be able to:

1. Demonstrate a proficiency in various formal and informal assessment methods used to document children's development via class activities, field experiences, written assignments and examinations.
2. Interpret observations and evaluate children's social, physical, literacy, intellectual, creative and emotional development via class discussions, field experiences, written assignments and examinations.
3. Identify common developmental delays and four types of child abuse via class discussions and written assignments.
4. Produce a child study that demonstrates knowledge of child development with appropriate curriculum recommendations that are documented with actual observation recordings.

5. Communicate a positive attitude toward each child in evaluations as well as respect confidentiality through class discussions, field experiences and written assignments.

## **ECE 180 - Child Health and Safety and Nutrition**

Designed to help students become aware of techniques for promoting general health care and safety standards at children's centers.

Credits: 3

### **Hours**

3 Class Hours

## **ECE 190 - Infants, Toddlers and the Families**

This course is on the developmental milestones of children under three years old. Students will learn how to plan individualized activities and preparing quality environments. Appropriate practices in child care centers and family day care homes will be examined with an emphasis on producing positive partnerships between families and early childhood educators to ensure that infants and toddlers receive high-caliber, consistent caregiving and education.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Evaluate the development of infants and toddlers via observations, class discussions and written assignments.
2. Compare differences between infant, toddler, and preschool programs and developmentally appropriate practices via observations, class discussions and written assignments.
3. Utilize infant and toddler development knowledge to formulate a homemade learning toy.
4. Appraise an infant or toddler environment and program using a standardized rating scale instrument.

## **ECE 200W - Field Experience I**

This course is a seminar focused on guiding students in their role as practicing teachers in early childhood settings (infant through four years old). Topics will include the students' weekly teaching experiences and current issues in early childhood education. Students will teach in an assigned classroom under the supervision of a qualified educator for 8-10 hours per week over the course of the semester for a minimum of 96 hours total. Students will also be observed by the seminar

instructor. Field and Community Service experiences are mandatory. A.A.S. Degree students taking their second semester of Field Experience will be required to assume all lead teacher responsibilities successfully for one day. The seminar instructor and sponsor teacher will evaluate the students' effectiveness. ECE 200W is required for A.A.S. Early Childhood Education majors. L.A.G.S. Teacher Education (A.S. Degree) transfer majors may take ECE 200W or ECE 201.

#### **Prerequisite- Corequisite**

Prerequisite: 30 hours of advised coursework including ECE 120.

Credits: 4

#### **Hours**

2 Class Hours, 2 Laboratory Hours

#### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate competence in planning and implementing developmentally appropriate curriculum in a supervised field experience via seminar discussion, field experience and written assignments.
2. Act ethically and practice professionalism in the supervised field experience.
3. Communicate in writing the rationale for developmentally appropriate practice.
4. Identify and explore current issues in early childhood education and their impact on children, families and society via seminar discussions, field experiences and written assignments.

## **ECE 201 - Field Experience II**

This course is a seminar focused on guiding students in their role as practicing teachers in early childhood settings (infants through four years old). Topics will include the students' weekly teaching experiences and current issues in early childhood education. Students will teach in an assigned classroom under the supervision of a qualified educator for 8-10 hours per week over the course of the semester for a minimum of 96 hours total. Students will also be observed by the seminar instructor. Field and Community Service experiences are mandatory. A.A.S. Degree students taking their second semester of Field Experience will be required to assume all lead teacher responsibilities successfully for one day. The seminar instructor and sponsor teacher will evaluate the students' effectiveness. ECE 201 is required for A.A.S. Early Childhood Education majors. L.A.G.S. Teacher Education (A.S. Degree) transfer majors may take ECE 200W or ECE 201.

#### **Prerequisite- Corequisite**

Prerequisite: 30 hours of advised coursework including ECE 120.

Credits: 4

#### **Hours**

2 Class Hours, 2 Laboratory Hours

#### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate competence in planning and implementing developmentally appropriate curriculum in a supervised field experience via seminar discussions, field experience and written assignments.
2. Act ethically and practice professionalism in the supervised field experience.
3. Communicate in writing the rationale for developmentally appropriate practice.
4. Identify and explore current issues in early childhood education and their impact on children, families, and society via seminar discussions, field experiences and written assignments.

## **ECE 210 - Children With Special Needs**

This course provides an overview in recognizing, understanding and supporting children with special needs in early childhood settings. Students will learn about common developmental delays and the various physical, cognitive and emotional diagnoses that are used to classify a child as having special needs. Students will also become familiar with special education terminology, federal laws, referral agencies, the referral process, evaluation instruments and methods, the role of various specialists in special education, individual family service plans (IFSPs), individual education programs (IEPs), teacher accountability as well as how to work with families of children with special needs.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Develop appropriate concepts and attitudes towards people with disabilities via class discussions and written assignments.
2. Demonstrate knowledge in the identification of children with special needs via class discussions, written assignments and examinations.
3. Illustrate an understanding of the concept of as well as the rationale and procedure for curricular adaptations when working with children with special needs via class discussions and written assignments.
4. Identify the placement options along the continuum of services for children with special needs via class discussions and examinations.
5. Enhance their understanding of the importance of family involvement in the educational process via class discussions and written assignments.
6. Distinguish between types of learning disabilities including sensory impairments, physical, learning and behavioral disabilities via class discussions, written assignments and examinations.

## **ECE 223 - Positive Child Guidance**

This course explores positive child guidance strategies for young children (infants through eight years). Students will explore theoretical foundations related to child development and the implementation of various models to facilitate self-control and pro-social skills in young children.



Other topics include: organizing the classroom environment and curriculum to promote positive social interactions; identifying typical and atypical behaviors based on age and stage of child development; defining and distinguishing problem behavior; investigating effective methods for addressing persistent and challenging behaviors; working with children with special needs and; defining and promoting culturally sensitive guidance.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe and critically evaluate the historical, philosophical, theoretical, and practical implications of child development and guidance via class discussions, written assignments and examinations.
2. Define positive child guidance according to various ages and stages via class discussions, activities and written assignments.
3. Identify problematic and challenging behavior in young children as well as create an action plan to resolve the issue effectively and appropriately via class discussions, activities and written assignments.
4. Create pro-social classroom environments and curriculum for young children via written assignments and presentations.
5. Expand knowledge base of children with special needs and recognize effective strategies for guiding development and behavior within inclusive settings via class discussions and written assignments.
6. Recognize the impact and influence of family and culture on child guidance and respond appropriately via class discussions and written assignments.

## **ECE 224 - Preschool Mathematics**

This course explores the methods and materials used to present developmentally appropriate mathematics concepts and skills to preschool children. Other topics include: the teacher's role in the learning process; the role of the environment in the learning process; math literature; differentiated instruction; making math meaningful as well as; establishing and enhancing the connections between home and school.

Credits: 1

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Distinguish between the concepts of classification, comparison and contrasting via class discussions, written assignments and presentations.
2. Identify the difference between rote counting, number identification and concept of quantity via class discussions, written assignments and presentations.
3. Define concepts of shape, size and time via class discussions, written assignments and projects.
4. Create developmentally appropriate math activities via class discussions, written assignments and presentations.
5. Recognize quality children's math literature for preschoolers via class discussions, written assignments and presentations.
6. Generate interdisciplinary math activities via class projects, written assignments and presentations.
7. Demonstrate the value of positive home-school connections in early education via the creation of a math bag that would be sent home to families to use.

## **ECE 226 - Preschool Science**

This course examines the methods and materials used to present developmentally appropriate science concepts and skills to preschool children. Other topics include: the teacher's role in the learning process; the role of the environment in the learning process; science in children's literature; differentiated instruction; using our senses for observation and discovery as well as; establishing and enhancing connections between home and school.

Credits: 1

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Distinguish between and define life science, physical science, earth science and health science via class discussions, written assignments and presentations.
2. Create developmentally appropriate science activities via class activities, written assignments and presentations.
3. Recognize quality children's literature that focus on scientific concepts via class discussions, written assignments and presentations.
4. Generate interdisciplinary science activities via class projects, written assignments and presentations.
5. Demonstrate the value of positive home-school connections in early education via the creation of a science send-home sack for families to borrow and utilize.

## **ECE 227 - Early Childhood and Technology**

This course investigates the content and methods for teaching with computers and related technologies in early childhood classrooms. Other topics include: evaluating children's software; using technology for communication, record keeping and instruction as well as; the benefits, barriers and controversy surrounding technology use in early childhood classrooms.

Credits: 1

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the course:

Upon successful completion of this course the student will be able to:

1. Identify technologies appropriate for young children via class discussions, written assignments and presentations.
2. Evaluate computer software, internet sites and other technologies for developmental appropriateness for young children via class discussions, written assignments and presentations.
3. Demonstrate competence in computer usage and instruction to meet children's developmental levels and needs via written assignments and presentations.
4. Illustrate comprehension of digital camera usage via the creation of a photo project that would be appropriate for early childhood settings.
5. Exhibit the value of positive home-school connections in early education via the creation of a newsletter and information packet for families.

## **ECE 230 - Working With Families in Early Childhood Programs**

This course examines the importance of family involvement in the education of young children. Topics include: diversity; definition of family; parenthood as an emotional experience; definition of family involvement; barriers to partnerships; issues of trust; communication methods; conferencing; home visits; families in the classroom; parent education and; exploring model programs.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Recognize family diversity, modern challenges and how family life impacts learning and teaching via class discussions, written assignments and presentations.
2. Identify the various roles that family members have and the emotions of parents as well as how to address them as an educator via class discussions and written assignments.
3. Define and identify factors that motivate family involvement via class discussions, written assignments and presentations.
4. Determine potential barriers to teacher-family partnerships via class discussions and written

assignments.

5. Develop strategies for working partnerships with families and the community via class discussions, written assignments and presentations.

## **ECE 245 - Social Development of Young Children**

This course explores the developmental, environmental and temperamental aspects of the socialization process for young children. Topics include: separation; transitions; aggression; learning self-regulation; cooperation; sharing; resolving conflicts; moral development; peer interaction; gender-role development; communicating with families and; valuing diversity.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Recognize the importance of social-emotional learning via class discussions, written assignments and presentations.
2. Discriminate between and define positive self-identity, empathy, a sense of competence as well as recognizing and labeling emotions via class discussions and written assignments.
3. Differentiate between and define cooperative play, conflict resolution, moral development, self-regulation and democratic participation via class discussions and written assignments.
4. Identify how family culture and diversity impacts social development while, in turn, creating strategies to individualize social needs via class discussions, written assignments and presentations.
5. Describe the value of positive role modeling in the classroom environment to teach pro-social skills via class discussions, written assignments and presentations.

## **ECE 255 - Special Topics in ECE**

This course is based on the particular needs of early childhood students and/or community. A forum will be provided for early childhood professionals to share their unique knowledge and skills with students. Recent topics have included: Infant and Toddler Language and Literacy Development and; Autism. Other topics are: Sensory Integration Dysfunction; Gifted Children; Gender Issues in Early Childhood Education; Health and Safety in Early Childhood Settings as well as; Anti-Bias and Multicultural Education.

### **Prerequisite- Corequisite**

Prerequisite: ECE 110 Introduction to Early Education or permission of the department chair.

Credits: (1-3)

### **Hours**



1-3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define core concepts in the identified content area via class discussions, written assignments and presentations.
2. Discuss the relevance of the special topic to the field of early childhood education via class discussions, written assignments and presentations.
3. Demonstrate knowledge in the specified content area via class discussions, written assignments and presentations.
4. Differentiate the significance of the special topic in teaching young children via class discussions, written assignments and presentations.
5. Create a project that applies the special topic to an early childhood setting.
6. Critique contrasting perspectives on the special topic via class discussions, written assignments and presentations.

## **ECE 299 - Independent Study in Early Childhood**

This course is designed as an individual student project that goes beyond the scope of requirements offered by the Teacher Education and Early Childhood Department. The project is facilitated under the direction of a faculty member and upon approval by the department chairperson and Dean of Liberal Arts. No more than three credits may be acquired toward the Early Childhood Education A.A.S. Degree or Liberal Arts General Studies A.S. Degree in independent study projects.

### **Prerequisite- Corequisite**

Prerequisite: 6 Semester hours in Early Childhood Education courses.

Credits: (1-3)

### **Hours**

1-3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define core concepts in the identified subject area via instructor meetings, written assignments and project work.
2. Discuss the relevance of the selected topic to the field of early childhood education via instructor meetings, written assignments and project work.
3. Demonstrate knowledge in the identified subject area via instructor meetings, written assignments and project work.
4. Differentiate the significance of the topic selected in teaching young children via instructor meetings and project work.
5. Create a project that applies the concept to early childhood settings.
6. Critique contrasting perspectives on the selected topic via instructor meetings and project work.

## **ECO 110 - Micro-Economics**

An introduction to key economic concepts which relate to the market mechanism, supply and demand, the allocation of scarce resources, consumer behavior and the behavior of firms. We all live in a world where choices are made and those choices always involve economic costs and consequences.

Credits: 3

### **Hours**

3 Class Hours

### **Note**

Satisfies the Civic Education requirements

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of and apply an economic perspective.
2. Describe the operation of the market system.
3. Identify how market prices are determined.
4. Identify various market structures.

## **ECO 111 - Introduction to Macro-Economics**

Causes of unemployment and inflation and the government's efforts to control them. Problems of economic growth as they relate to our economy and the other countries, developed and underdeveloped. International trade and finance problems.

Credits: 3

### **Hours**

3 Class Hours

### **Note**

Satisfies the Civic Education requirements

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of and apply an economic perspective.
2. Identify causes of fluctuations in economic activities.
3. Identify phases of the business cycle in the macroeconomy.
4. Interpret macroeconomic aggregate variables.
5. Describe the application of governmental stabilization policies.

## **ECO 299 - Independent Study-Economics**

An individual student project in economics which is beyond the scope or requirements of the courses offered by the department, conducted under the direction of a faculty member and approved by the department chairperson.

**Prerequisite- Corequisite**

Prerequisite: 3 Semester Hours in Economics.

Credits: (1-3)

**Course Profile**

Learning Outcomes of the Course:

Learning outcomes will be determined by the instructor with the consent of the department chair and Dean.

## **EDU 111 - Foundations of American Education**

This course is an introduction to the profession of teaching. The social, economic, and political history of American education will be explored. Contemporary goals, practices, and issues will also be investigated. Specific topics include: diversity; special education; child/adolescent development; legal issues; ethics; professionalism; curriculum; philosophy; learning theories and pedagogy. Field and community service experiences are mandatory. This course is appropriate for L.A.G.S. Teacher Education (A.S. Degree) transfer majors who wish to pursue Childhood (Grades 1-6), Middle Childhood (Grades 5-8), Adolescence (Grades 7-12), Physical Education (K-12), Art Education (K-12) or Music Education (K-12) teacher certification.

Credits: 3

**Note**

See teacher certification.

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Recognize and explain the central philosophies, issues and disputes surrounding American education via class discussions, field experiences and written assignments.
2. Apply knowledge of child/adolescent development to educational practice and curriculum via class discussions, field experiences and written assignments.
3. Relate developments in American education and schooling to broad themes in our social, economic and political history via class discussions, field experiences and written assignments.
4. Appraise the teaching profession as a career choice via examination of the field and written reflection.

## **EET 107 - Electronic Computer Applications**

This course will introduce students to computer software and hardware specific to the Electrical/ Electronics curriculum, and provide experience using word processors, spreadsheets, and presentation software in electronic course work.

**Prerequisite- Corequisite**

Co-requisite: EET121 DC & AC Circuits and Laboratory or equivalent.

Credits: 3

**Hours**

2 Class Hours, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Write technical reports with embedded data tables, graphs, circuit diagrams and equations.
2. Create and deliver a technical presentation.
3. Create electrical circuits and simulate them using software.
4. Understand programming concepts and create simple algorithms.
5. Program an industrial robot and programmable controller.
6. Create a circuit board layout from a schematic.

## **EET 110 - Introduction to Electricity**

This course provides a general overview of topics covered in the Electrical Engineering Technology curriculum. Basic circuit theories are introduced and used to describe the operation of more complex systems. Power generation and distribution, communication systems and networking, robotics and automation, and consumer electronics are some of the topics used to illustrate application of these basic concepts. Laboratory exercises and demonstrations will be integrated with the lectures to give students experience in taking basic electrical measurements and recording those measurements for a technical report. Computers will be used for recording data and for researching the topics listed above.

Credits: 4

**Hours**

4 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the basic electrical units of Voltage, Current, Resistance. and Power.
2. Solve simple series, parallel, and series-parallel resistive circuits.
3. Understand the basics of power generation and distribution.
4. Set up a simple electrical circuit and take measurements in a laboratory environment.

## **EET 111 - Electrical Construction Laboratory**



An introductory course in residential and commercial wiring procedures, basic measuring techniques, and fundamentals of basic machine operations. Students will gain experience in the fabrication, installation, and maintenance of electrical equipment through hands-on laboratory exercises. This course also includes National Electrical Code topics with an emphasis on electrical safety.

Credits: 2

**Hours**

1 Class Hour, 3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Operate various machine tools, hand tools, and test equipment, including a vertical milling machine, bandsaw, engraver, Hipot tester and multimeter.
2. Layout and install basic residential wiring circuits in compliance with the National Electric Code.
3. Build a project from a dimensioned print.
4. Populate and solder a printed circuit board.
5. Work safely in a shop environment.

## **EET 112 - Electrical Fabrication Laboratory**

An introductory course in electronic project construction which includes printed circuit board design and manufacturing. In this course the student will layout and manufacture a printed circuit board, fabricate an enclosure, assemble a finished product, and document the process. Soldering and wiring techniques will be covered. This course also includes telecommunications cabling (telephone, coaxial, computer networking, fiber optics), low voltage control applications, and surface mount technology.

**Prerequisite- Corequisite**

Prerequisite: EET 111 Electrical Construction Laboratory

Credits: 1

**Hours**

3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Create documentation required to manufacture a project.
2. Use design software to layout a printed circuit board from a schematic.
3. Fabricate a printed circuit board.
4. Assemble and solder an electronic project.
5. Package an electronic project in an enclosure.
6. Install connectors on telecommunications cabling.
7. Understand concepts of low voltage control.

## **EET 115 - Introduction to Digital Electronics**

This course serves as an introduction to digital logic including number systems, binary arithmetic, logic gates, flip flops, counters, memories, and basic computer architecture. It includes the use of digital circuit simulation software.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the binary number system.
2. Understand the operation of basic logic gates. (AND, OR, NAND, NOR, Invert)
3. Generate a truth table for a logic circuit.
4. Connect a circuit comprised of basic logic gates and collect and analyze data.

## **EET 121 - DC & AC Circuits and Laboratory**

This course teaches the fundamentals of electrical circuits, application of circuit laws, theorems and measuring techniques for both DC and AC single and polyphase circuits. Topics include loop and nodal analysis, superposition, Thevenin's and Norton's theorems, RLC series and parallel circuits, and three phase circuits.

**Prerequisite- Corequisite**

Prerequisite: EET 110 Introduction to Electricity or equivalent

Corequisite: MAT 130 Applied Algebra and Trigonometry or equivalent

Credits: 5

**Hours**

4 Class Hours, 3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply basic circuit laws and network theorems to the solution of DC circuits involving multiple sources and circuit elements.
2. Write loop and nodal equations for multiple window DC circuits and use those equations to solve for all currents and voltages.
3. Reduce a two terminal circuit to its Thevenin or Norton equivalent.
4. Solve RC time constant problems.
5. Apply network theorems and complex numbers to the solution of AC circuits.
6. Use circuit simulation software to analyze circuit behavior.
7. Demonstrate the proper use of voltmeters, ammeters, wattmeters, counters, multimeters, and oscilloscopes to make accurate measurements.
8. Neatly and accurately record and analyze laboratory data, construct graphs, and complete a professional technical document based on laboratory work.

## EET 122 - Electrical Circuits

In this course students learn to analyze DC and AC passive circuits using Ohm's Law, Kirchhoff's laws, Superposition. RC and RL circuits are analyzed for impedance and phase angles. Troubleshooting, analysis by computer simulation using simulation software, and telecommunication applications are stressed throughout.

### **Prerequisite- Corequisite**

Prerequisites: MAT 149 Applied Technical Mathematics II and CST 106 Computers in Technology.

Credits: 4

### **Hours**

4 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply basic circuit laws and network theorems to the solution of DC circuits involving multiple sources and circuit elements.
2. Solve RC and RL time constant problems.
3. Apply network theorems and complex numbers to the solution of AC circuits.
4. Use voltmeters, ammeters, counters, multimeters, and oscilloscopes to make accurate measurements.
5. Use the laptop for the following activities: save and retrieve files, use computer simulation software to solve DC and AC problems, print solutions, collect data and create Excel files and print graphs, log on to Blackboard, download and upload files with Bb.
6. Neatly and accurately record and analyze laboratory data, construct graphs and complete a professional technical Word document based on laboratory work.
7. Apply the course competencies: teamwork, leadership principles, problem solving, customer focus, technology/service delivery, and generate quality work.

## EET 150 - Electronic Devices and Laboratory

This is a first course in Electronics, with an introduction to semi-conductor physics and the active devices fundamental to the field. Diodes, bipolar and field effect transistors, thyristors, and optoelectronic devices are studied. Amplifiers and other representative circuits based on these building blocks are analyzed and designed using traditional and computer based methods. Frequency response characteristics and Bode plots of amplifiers are analyzed.

### **Prerequisite- Corequisite**

Prerequisite: EET 121 DC & AC Circuits and Laboratory, EET 107 Electronic Computer Applications, and MAT 130 Applied Algebra and Trigonometry.

Credits: 4

### **Hours**

3 Class Hours, 3 Laboratory Hours

## **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain the operation of diodes, their application in rectifier circuits, and the block diagram of a complete power supply.
2. Describe the characteristics of a zener diode and its operation in a voltage regulator circuit.
3. Describe the function and operation of bipolar and field effect transistors and their use as amplifiers and switches.
4. Explain the purpose of DC bias and the use of load-line analysis in amplifier circuits.
5. Explain the AC small signal model of an amplifier and discuss amplifier characteristics like voltage gain, input and output resistances, and loading effect.
6. Describe frequency response characteristics and bandwidth limitations of amplifier circuits.
7. Explain the characteristics and applications of thyristors and optoelectronic devices.
8. Use simulation software to analyze circuits.
9. Use electronic test equipment including: DC power supply, function generator, digital multimeter, curve tracer, oscilloscope, and frequency counter.
10. Breadboard and troubleshoot circuits, take measurements, analyze data, and produce coherent lab reports.

## **EET 151 - Introduction to Electronics**

Students are taught the characteristics of amplifiers using op-amps. Various linear and non-linear applications of op-amps are introduced, with emphasis on their use in the telecommunications industry. Electro-optical devices, such as LEDs, laser diodes, and photodiodes are studied. Diodes and transistors are conceptually introduced, and their basic application in power supplies and amplifiers are discussed. Frequency response of passive networks and amplifiers are discussed and visualized via Bode plots. Troubleshooting and analysis by computer simulation software is stressed throughout. Some hands-on lab experiments are performed.

### **Prerequisite- Corequisite**

Prerequisites: EET 122 Electrical Circuits, and PHY 160 Applied Physics.

Credits: 4

### **Hours**

4 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the function of an amplifier with respect to gain input-output impedance and frequency response.
2. Analyze and design inverting and non-inverting op-amp circuits for a specified gain.
3. Describe and calculate the behavior of specialty op-amp circuits such as buffer amplifiers, summing amps, comparators, and sample/hold circuits.
4. Find and interpret IC Op Amp specification sheets.
5. Describe the characteristics of light and the operation of special purpose electro-optic diodes: LED's, lasers, and photodiodes.
6. Describe the operation of rectifier diodes applied to linear and switching power supplies.



7. Describe the operation of transformers applied to power supplies.
8. Calculate and describe the frequency response of passive networks; generate Bode magnitude and phase plots.
9. Follow and describe prescribed lab test procedures, set up equipment, take measurements, interpret results, and run computer simulations; interpret schematic diagrams and construct breadboard circuits; troubleshoot electronic circuits; produce formal lab reports.

## EET 152 - Communications Electronics

Students study the analysis and application of advanced electronic circuits to communications systems. Topics include frequency response of active filters, oscillators, phase locked loops, amplitude modulation, frequency modulation, pulse modulation, and the introduction to television and multiplexing concepts. Circuits will be analyzed using computer simulations. The course integrates troubleshooting and testing of circuits in lab to provide the necessary hands-on experience.

### Prerequisite- Corequisite

Prerequisite: EET 151 Introduction to Electronics.

Credits: 4

### Hours

4 Class Hours

### Course Profile

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe signals in the time domain and their translation to the frequency domain, and apply Fourier analysis to determine the frequency spectrum of non-sinusoidal signals.
2. Describe the characteristics of the filter with respect to frequency response, order, dB roll-off, and Bode plot. Explain the low pass, high pass, band pass, and band reject filters.
3. Explain the operation of an oscillator and the concept of loop gain and resonance in the Wien Bridge, Hartley, and Colpitts oscillators.
4. Describe amplitude and frequency modulation and their spectrum. Explain the superheterodyne receiver and the process of demodulation.
5. Describe operation of a phase locked loop and its application in communications circuits.
6. Explain different forms of pulse modulation and describe the steps involved in converting analog signals to digital data using pulse code modulation.
7. Explain frequency, time, and wave division multiplexing.
8. Describe analog and digital television transmission principles and methods.
9. Follow prescribed lab test procedures, set up equipment, take measurements, interpret results, and run computer simulations; interpret schematic diagrams, construct and troubleshoot breadboard circuits; produce lab reports.
10. Work on a hardware project and practice course competencies such as teamwork, leadership, problem solving, and quality. Develop a project report and deliver an oral presentation.

## EET 162 - Computer Aided Network Analysis Laboratory

This course expands upon the analysis techniques introduced in EET 121. It covers analysis of complex electric and electronic circuits by application of network theorems. Computers will be used to analyze and display the response of two port networks.

**Prerequisite- Corequisite**

Prerequisites: EET 107 Electronic Computer Applications, EET 121 DC & AC Circuits and Laboratory, and MAT 130 Applied Algebra and Trigonometry.

Credits: 1

**Hours**

3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Write programs to analyze AC electric circuits.
2. Write the equation for a sinusoidal voltage including amplitude and frequency.
3. Analyze AC circuits using network theorems.
4. Calculate Z and A parameters for two port networks.
5. Analyze high pass, low pass, and resonant circuits.
6. Generate a Bode plot of a frequency dependant circuit.
7. Solve AC circuit problems using systems of equations.
8. Use LaPlace transforms to perform transient response analysis.

## **EET 168 - Digital Systems I**

This course presents topics in hardware and systems as used in the telecommunications industry. Electrical and digital circuits are explored. Binary numbers systems are discussed as applied to telecommunications equipment. Students will explore hardware to the modular level. Students will demonstrate and simulate electrical and digital circuits.

**Prerequisite- Corequisite**

Prerequisite: MAT 148 Applied Technical Mathematics I; CST 106 Computers in Technology

Credits: 4

**Hours**

3 Lecture Hours, 2 Lab Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Analyze and solve simple series and parallel circuits.
2. Convert numbers among the binary, decimal, octal, and hexadecimal numbering systems.
3. Explain logic gates, binary codes, difference between parallel and serial, and between synchronous and asynchronous data transmission.
4. Describe the difference between digital and analog quantities.
5. Describe digital computer organization and operation including the CPU, motherboard, memory, primary and secondary storage devices, and peripheral devices.
6. Use the laptop: to save and retrieve files, as an analytical tool, to log onto BlackBoard and

download and upload files.

7. Produce a technical report and/or a formal lab report.

8. Work productively as a team when given the specifications for a hardware project.

9. Practice project leadership, interpersonal skills, and problem solving via the planning, organizing, and execution of the project.

## **EET 169 - Digital Systems II**

In this course students work with hardware and software installation, with an introduction to personal computer fundamentals. The course covers managing and supporting Windows, configuring user related issues, and customization. Students connect a personal computer to a network, and install and setup a printer. Students learn how to maintain a computer, and the fundamentals of troubleshooting a PC. An optional topic covers Home Technology Integration, including surveillance and home automation. The course consists of lecture and in-class demonstration.

### **Prerequisite- Corequisite**

Prerequisite: EET 168 Digital Systems I and Laboratory

Credits: 4

### **Hours**

4 Lecture Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the advantages and disadvantages of the different Operating Systems.
2. Describe the installation of hardware components and install an Operating System.
3. Explain and use different troubleshooting tools and utility software.
4. Analyze the difference and similarities from personal computers to notebooks, tablets, PDAs and other handheld devices.
5. List the different types of printers and demonstrate how to setup a printer.
6. Demonstrate a basic understanding of networks.
7. Show how to manage and support Windows security, registry, recovery methods.
8. Demonstrate how to customize the computer for each individual customers use.
9. Explain how to work with support services.
10. Apply the Course Competencies for appropriate study techniques as outlined in Blackboard.
11. Produce a technical report and/or a formal lab report.
12. Work productively as a team member when given the specifications for a hardware project.
13. Develop project leadership, interpersonal skills, and problem solving skills via the planning, organizing, and execution of the project.

## **EET 183 - Applied Electricity**

Practical applications of electricity, electronics, computing and simulation. Topics include DC and AC circuits with computer simulation and Internet research. Laboratory work includes demonstration of basic electrical and electronic concepts using measuring instruments, Multisim, and computers.

**Prerequisite- Corequisite**

Prerequisite or Corequisite: MAT 130 Applied Algebra & Trigonometry.

Credits: 3

**Hours**

2 Class Hours, 3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the basic electrical units of Voltage, Current, Resistance, and Power for DC and AC circuits.
2. Solve simple series, parallel, and series-parallel resistive circuits.
3. Understand the basics of power generation and distribution and control.
4. Set up electrical circuits, take measurements, and analyze data in a laboratory environment.

**EET 201 - Senior Seminar**

A weekly lecture series intended to increase awareness of the changing elements of the Electronics industry and to help the student focus on areas of concern presented by industry experts. Emphasis will be placed on the responsibility by technologists to society as a whole in the area of ethical and moral values. Topics may include Quality Assurance, Ethics in Engineering, Artificial Intelligence, Telecommunications, Robotics, Power Engineering, Modeling and Simulation, CIM, Interpersonal Communications, and Statistics.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I

Corequisite: EET 267 Microprocessors, or EET 270 Control Systems & Robotics, or EET 252 Electronic Communication Systems

Credits: 0

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate awareness of ethics and professional responsibilities of technicians and engineers.
2. Express thoughts and opinions succinctly in written form.
3. Have knowledge of a broader spectrum of topics and issues related to the electrical technology field.

**EET 210 - Applied Electricity and Electronics**

This course provides a practical overview of topics in electricity, energy conversions, electronics, and digital circuitry. Topics include DC and AC circuit theory, power generation, DC and AC motor



operation, electronic devices, digital logic gates and microprocessors. Laboratory exercises include use of measuring instruments such as digital multimeters, oscilloscopes, function generators, counters, wattmeters, and bridges.

**Prerequisite- Corequisite**

Prerequisites: MAT 130 Applied Algebra & Trigonometry or equivalent and PHY 161 Physics I or equivalent.

Credits: 4

**Hours**

3 Class Hours, 3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the basic electrical units of Voltage, Current, Resistance, and Power in DC and AC circuits.
2. Solve series, parallel, and series-parallel resistive circuits.
3. Understand the basics of power generation and distribution.
4. Set up electrical circuits, take measurements and analyze data in a laboratory environment.
5. Be familiar with the operation of diodes, transistors, logic gates, and microprocessors.

**EET 230 - Electronic Design Project**

This course involves the prototyping, package design and construction of an electronic project in a team environment. The project will include the use of both electronic and mechanical computer aided design software. Various electronic and mechanical manufacturing processes will be used to fabricate the project. Industrial standard documentation practices will be used to properly describe all phases of the project. Chassis layout, printed circuit board design, exposure, machining, wiring, soldering and enclosure fabrication are required. This course also includes discussion of product cost, marketing a product and other topics related to small businesses and entrepreneurship.

**Prerequisite- Corequisite**

Prerequisites: EET 112 Electronic Fabrication Laboratory, MET 113 Engineering Drawing I w/CAD, and EET 150 Electronic Devices and Laboratory.

Credits: 1

**Hours**

3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Select components and create a parts list from a schematic diagram.
2. Breadboard and troubleshoot an electronic project.
3. Create a printed circuit layout from a schematic diagram.
4. Produce a printed circuit board from a layout master.
5. Design and fabricate an enclosure for an electronic project.
6. Assemble and troubleshoot a complete electronic project.

7. Create a cost estimate of a final product.
8. Work effectively in teams.
9. Develop and deliver oral presentations.

## **EET 247W - Energy Conversions & Automation and Laboratory**

This course covers the theory, operation, and control of DC and AC motors and generators. Single phase and polyphase transformers, power generation systems, and power transmission are also studied. Industrial control and automation with programmable controller applications will be covered.

### **Prerequisite- Corequisite**

Prerequisite: EET 150 Electronic Devices

Credits: 4

### **Hours**

3 Class Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand magnetic principles.
2. Understand physical characteristics of dynamo and field windings.
3. Understand requirements for conversion between mechanical and electrical energy.
4. Understand the operation of single and polyphase transformers.
5. Understand parallel operation of alternators.
6. Understand power factor effects on power systems and power factor correction.
7. Understand basic fundamentals of Programmable Logic Controllers.

## **EET 251 - Electronic Circuitry**

This second course in Electronics incorporates the devices introduced in EET 150 into representative circuits of moderate complexity. They include amplifiers, oscillators, regulators, op-amp active filters, and other related circuits. The characteristics of operational amplifiers and their use in various linear and non-linear applications are explored in some detail. Computer simulation software is used to perform frequency response analysis of active filters, and to also analyze other electronic circuits.

### **Prerequisite- Corequisite**

Prerequisite: EET 150 Electronic Devices and Laboratory.

Credits: 4

### **Hours**

3 Class Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain the characteristics and different classes of power amplifiers.
2. Explain the characteristics of an operational amplifier (op-amp), and the differences between open loop and closed loop operation of an op-amp.
3. Design and analyze op-amp linear amplifier and filter circuits.
4. Describe and analyze operation of oscillator and voltage regulator circuits.
5. Explain the difference between time and frequency domains, and discuss the frequency spectrum of non-sinusoidal waveforms using Fourier theory.
6. Use simulation software to design and analyze filters and other circuits.
7. Demonstrate competency in the use of electronic test equipment.
8. Construct and troubleshoot electronic circuits on a breadboard, take measurements, analyze data, and produce coherent lab reports.

## **EET 252W - Electronic Communications Systems**

The course will explore basic analog and digital communications concepts such as modulation, multiplexing, SNR, bandwidth, data rates, and encoding techniques. Communications systems such as AM and FM radio, analog and digital television, and satellites will be studied. Students will be introduced to various communications media and learn about the fundamentals of data communications and networking.

### **Prerequisite- Corequisite**

Prerequisites: EET 251 Electronic Circuitry

Credits: 4

### **Hours**

3 Class Hours; 3 Lab Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe amplitude and frequency modulation, and the block diagram of a superheterodyne receiver.
2. Describe the operation of a phase locked loop and its application in communications circuits.
3. Explain the characteristics and applications of copper, fiber and wireless transmission media.
4. Explain multiplexing concepts, and the characteristics of frequency, time, and wave division multiplexing.
5. Describe analog and digital television transmission and reception principles.
6. Describe satellite communication principles and the characteristics of geosynchronous satellites.
7. Explain analog-to-digital conversion using pulse code modulation, and other types of pulse modulation methods.
8. Explain basic data communications concepts and digital modulation techniques.
9. Describe network fundamentals: topologies, hardware, media, and data transmission.
10. Research a current topic in the field of study and write a formal report using library and internet resources.
11. Demonstrate competency in the use of electronic test equipment, such as oscilloscopes, signal generators, and spectrum analyzers.
12. Construct and troubleshoot electronic circuits and systems, take measurements, analyze data, and produce coherent lab reports.

## **EET 260 - Digital Electronics**

Study of number systems, logic gates and families (TTL/CMOS), logic design and simplification techniques, digital black box design, Karnaugh maps, standard circuits such as counters, shift registers and decoders, Boolean algebra, programmable logic, analog to digital interfacing, computer arithmetic, digital data transmission, memories, and microcomputer basics. Appropriate laboratory exercises provide hands-on experience building and troubleshooting many types of digital circuits. Electronic circuit simulation software is also used.

### **Prerequisite- Corequisite**

Prerequisite: EET 150 Electronic Devices; EET 115 Introduction to Digital Electronics or equivalent.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Count and convert numbers between binary, decimal, hexadecimal number systems, and perform binary arithmetic.
2. Explain the operation of logic gates and their use in combinational logic circuits.
3. Apply basic laws and rules of Boolean algebra, DeMorgan's theorems, and Karnaugh maps to simplify Boolean expressions and reduce digital logic circuits.
4. Explain the operation of flip-flops, counters, shift registers, multiplexers, encoders, decoders, and their application in practical digital circuits.
5. Describe analog-to-digital and digital-to-analog conversion processes and compare different ADC and DAC circuits.
6. Describe ASCII code and asynchronous serial data communication.
7. Explain different types of memories and their attributes.
8. Identify the components and functions of a simple microcomputer.
9. Demonstrate competency in creating and testing fully functioning logic circuits on a breadboard, and writing technical reports.

## **EET 267 - Microprocessors**

Study of microprocessor and microcontroller hardware and software. Microprocessor (Intel and Motorola 8/16/32/64-bit machines) assembly language programming using assemblers, DEBUG, disassemblers, monitors, and loaders will be applied to industrial applications of microprocessors and microcontrollers. Computer architecture and system design methods for microprocessor-based systems are also covered. Appropriate laboratory exercises provide hands-on experience in two areas: microprocessor and microcontroller assembly language, and system interface hardware.

### **Prerequisite- Corequisite**

Prerequisite: EET 260 Digital Electronics.

Credits: 3



**Hours**

2 Class Hours, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Be familiar with the history of computers and computing including the increasing requirements of: speed, address/data lines, memory sizing, available emulation software, and typical applications.
2. Demonstrate the use of 8085, 8086, and 68000 assembler and simulator programming software to create working applications.
3. Use the Internet to find information and solutions related to tasks assigned to microcomputers.
4. Explain the operation of a basic microcomputer system such as the Prolog Single Board Computer from both a hardware and software view.
5. Write and demonstrate application programs based on the studied microprocessor chips.
6. Use a microcontroller to perform a task or application for a low cost solution.

**EET 270 - Control Systems & Robotics**

Incorporated with this course are the theory, operation, design and implementation of open and closed loop control systems, including mathematical modeling and stability analysis. Theory and application of both analog and digital controls are introduced. Robotic applications and programming are integrated with this course. Process control techniques with additional Programmable Logic Controller programming are included.

**Prerequisite- Corequisite**

Prerequisites: EET 247W Energy Conversions & Automation and Laboratory, and EET 260 Digital Electronics

Credits: 4

**Hours**

3 Class Hours, 3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Be exposed to simulation software such as MATLAB and Simulink.
2. Understand control system block diagrams and be able to reduce to a single block.
3. Determine characteristic equations for second order systems.
4. Understand first, second, and multiple order control systems.
5. Determine if a control system is stable.
6. Understand concepts of frequency response and Bode plots.
7. Understand effects of nonlinearities.
8. Understand the concepts of digital control and robotics.

## **EET 297 - Cooperative Work Experience**

Cooperative education in Electrical Engineering Technology may be available. On-the-job experience may be obtained by working with businesses, industries, and offices whose operations require the use of electrical engineering technology, electrical technology, or related skills. To be eligible, a student must maintain a cumulative grade point average of 2.2 with no 'F' grades, and have completed at least 24 credit hours, including EET 112, EET 121, EET 150 and MAT 130 or higher.

### **Prerequisite- Corequisite**

Prerequisites: EET 112 Electrical Fabrication Laboratory, EET 121 DC & AC Circuits and Laboratory, EET 150 Electronics Devices & Laboratory, and MAT 130 Applied Algebra & Trigonometry or higher.

Credits: 1

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have work experience in a technical field.
2. Apply skills learned in the EET curriculum to perform technical tasks.
3. Demonstrate the ability to work effectively in a technical setting.

## **EET 299 - Independent Study**

The student undertakes an independent project in his/her specialty under the guidance of a faculty member. Only one independent study course allowed per semester. Consideration may be given a project involving a job-related assignment.

### **Prerequisite- Corequisite**

Prerequisite: Department chairperson approval.

Credits: (1-4)

### **Note**

Any independent study project is based on instructor availability.

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate the ability to work independently to achieve a goal.
2. Demonstrate proficiency in the specific area of study.

## **EGR 100L - Engineering Orientation: Student Success I**

This course is designed to enhance student success by addressing five primary themes: community building, professional development, academic success strategies, personal development, and orientation to the college environment. This is an interactive course with emphasis on group problem solving and experiential learning. Oral presentations from engineering design courses occur in the time designated for this course.

Credits: 0.5

#### **Hours**

2 Laboratory Hours

#### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand that "student success" in college depends upon community building, professional development, academic development, personal development, and orientation to the college environment.
2. Demonstrate community building skills including knowing the other students in class, working effectively in groups, and being able to interact positively with other students.
3. Perceive engineering as a profession and the role of ethics in engineering decision-making.
4. Understand and put into practice interaction with faculty and peers, use of campus resources and time management skills to improve academic success.
5. Determine one's preferred learning style and thinking preference.
6. Give an articulate response to the question, "What is Engineering?"
7. Gain exposure to local engineering industries.
8. Become aware of the opportunities for transferring to a four-year school.
9. Gain an understanding of or take part in the professional society ASEE.
10. Accept responsibility for their own educational success.

### **EGR 101L - Engineering Orientation: Student Success II**

A continuation of EGR 100: This course is designed to enhance student success by addressing five primary themes: community building, professional development, academic success strategies, personal development, and orientation to the college environment. This is an interactive course with emphasis on group problem solving and experiential learning. Oral presentations from engineering design courses occur in the time designated for this course.

Credits: 0.5

#### **Hours**

2 Laboratory Hours

#### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand that "student success" in college depends upon community building, professional development, academic development, personal development, and orientation to the college environment.
2. Demonstrate community building skills including knowing the other students in class, working effectively in groups, and being able to interact positively with other students.
3. Perceive engineering as a profession and the role of ethics in engineering decision-making.

4. Understand and put into practice interaction with faculty and peers, use of campus resources and time management skills to improve academic success.
5. Determine one's preferred learning style and thinking preference.
6. Give an articulate response to the question, "What is Engineering?"
7. Gain exposure to local engineering industries.
8. Become aware of the opportunities for transferring to a four-year school.
9. Gain an understanding of or take part in the professional society ASEE.
10. Accept responsibility for their own educational success.

## **EGR 150 - Engineering Design I with Graphics**

Engineers must be able to communicate their design ideas to others. Thus, this first course in Engineering Design focuses on the improvement of communication skills. These include written, oral presentation, sketching, and computer application skills. Software programs used include Microsoft Word, Excel, and PowerPoint as well as Mathcad. Since our world is three-dimensional, some effort is made to improve the spatial visualization ability of students. In addition, the principles of orthographic projection and descriptive geometry are learned. Students work in teams on a couple of short-term projects with the goal of recognizing and developing behaviors associated with consensus decision-making and cooperative teamwork. The steps of the engineering design process are learned.

Credits: 2

### **Hours**

1 Class Hour, 3 Lab Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Use a word processing program to create a lab report, technical report, English assignment, or other written document. The finished piece should be visually appealing and show that the student has made use of the many capabilities offered by the program.
2. Read and send email messages that may contain attached files.
3. Use a spreadsheet program to list and process data, including graphical representation of the data and regression analysis.
4. Use a presentation graphics program to create and present a slide show to large groups.
5. Use the Mathcad program to create documents that include text, equations, and mathematical solutions to problems.
6. Sketch a reasonably accurate isometric view of a three-dimensional object.
7. Create an accurate set of orthographic projection images of a three-dimensional object.
8. Determine the true-length of a line, find a point-view of a line, create an edge-view of a plane, and determine the true-size of a plane using the principles of descriptive geometry.
9. Describe the steps of the engineering design process.
10. Recognize and demonstrate various behaviors that contribute to cooperation and consensus building within a team.
11. Effectively participate as a member of a task team.
12. Objectively evaluate the performance of him/herself as well as other team members in group projects.



## **EGR 151 - Engineering Design II**

A continuation of Engineering Design I. The bulk of this course focuses on developing skill with a computer aided drawing (CAD) program to create and manipulate three dimensional solid models. Students continue working in teams on design projects with the goal of understanding and implementing the engineering design process for problem-solving. The area of engineering ethics is investigated to create in students a realization of the importance of responsible behavior in the engineering field.

### **Prerequisite- Corequisite**

Prerequisite: EGR 150 Engineering Design I with Graphics.

Credits: 2

### **Hours**

1 Class Hour, 3 Lab Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Sketch a design tree of how a solid model of a three-dimensional object will be created in a CAD program.
2. Use a parametric CAD program to:
  - a. Create a solid model of a three-dimensional object.
  - b. Edit and make changes to an existing solid model.
  - c. Produce dimensioned orthographic views from the solid model.
  - d. Connect several solid models together to form an exploded assembly drawing.
3. Use various techniques to formulate the problem statement as the first step of the engineering design process.
4. Define what a design constraint is, in general, and specifically, what an "ergonomic" constraint is.
5. Describe what "intellectual property" means and the methods used to protect it.
6. Discuss the role that engineering codes of ethics play in regulating the engineering profession.
7. Describe and give examples of the consequences resulting from the failure to engage in ethical behavior in engineering practice.

## **EGR 200L - Engineering Orientation: Student Success III**

A continuation of EGR 101: This course is designed to enhance student success by addressing five primary themes: community building, professional development, academic success strategies, personal development, and orientation to the college environment. This is an interactive course with emphasis on group problem solving and experiential learning. Common examinations, field trips to industry, visits by four-year engineering recruiters, and oral presentations are included as components of this course.

Credits: 0.5

### **Hours**

2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand that "student success" in college depends upon community building, professional development, academic development, personal development, and orientation to the college environment.
2. Demonstrate community building skills including knowing the other students in class, working effectively in groups, and being able to interact positively with other students.
3. Perceive engineering as a profession and the role of ethics in engineering decision-making.
4. Understand and put into practice interaction with faculty and peers, use of campus resources and time management skills to improve academic success.
5. Determine one's preferred learning style and thinking preference.
6. Give an articulate response to the question, "What is Engineering?"
7. Gain exposure to local engineering industries.
8. Become aware of the opportunities for transferring to a four-year school.
9. Gain an understanding of or take part in the professional society ASEE.
10. Accept responsibility for their own educational success.

### **EGR 201L - Engineering Orientation: Student Success IV**

A continuation of EGR 200: This course is designed to enhance student success by addressing five primary themes: community building, professional development, academic success strategies, personal development, and orientation to the college environment. This is an interactive course with emphasis on group problem solving and experiential learning. Common examinations, field trips, visits to industry, and oral presentations are included as components of this course.

Credits: 0.5

#### **Hours**

2 Laboratory Hours

#### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the "student success" in college depends upon community building, professional development, academic development, personal development, and orientation to the college environment.
2. Demonstrate community building skills including knowing the other students in class, working effectively in groups, and being able to interact positively with other students.
3. Perceive engineering as a profession and the role of ethics in engineering decision-making.
4. Understand and put into practice interaction with faculty and peers, use of campus resources and time management skills to improve academic success.
5. Determine one's preferred learning style and thinking preference.
6. Give an articulate response to the question, "What is Engineering?"
7. Gain exposure to local engineering industries.
8. Become aware of the opportunities for transferring to a four-year school.
9. Gain an understanding of or take part in the professional society ASEE.
10. Accept responsibility for their own educational success.

## EGR 281 - Mechanics (Statics)

Fundamental concepts of the statics of rigid bodies developed by using a vector analysis approach. Force systems, centroids and centers of gravity, analysis of structures, shear and bending moments, friction and moments of inertia.

### Prerequisite- Corequisite

Prerequisite: MAT 181 Calculus I and PHY 181 Physics I.

Credits: 3

### Hours

3 Class Hours

### Course Profile

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate knowledge of the basic principles of engineering mechanics for systems in equilibrium.
2. Acquire an understanding of force systems in both two and three dimensional space.
3. Determine appropriate free body diagrams for whole or parts of structures.
4. Apply the equations of equilibrium (sum of forces equal zero, sum of moments equal zero) to both two and three dimensional systems.
5. Apply the equations of equilibrium to trusses, frames and machines.
6. Demonstrate an understanding of the laws of Coulomb friction.
7. Locate the centroids of two and three dimensional bodies.
8. Determine area and mass moments of inertia.

## EGR 282 - Mechanics (Dynamics)

Vector analysis approach to kinematics and kinetics of particles, systems of particles, kinematics and kinetics of rigid bodies, forces, mass, acceleration, impulse, momentum, work and energy techniques.

### Prerequisite- Corequisite

Prerequisite: EGR 281 Mechanics (Statics).

Credits: 3

### Hours

3 Class Hours

### Course Profile

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the concepts of displacement, velocity, and acceleration.
2. Solve problems involving the kinematics of a particle undergoing constant and non-constant acceleration in both two and three dimensional space.
3. Calculate values for tangential and normal acceleration.
4. Solve problems involving particle motion using Newton's Second Law, Work-Energy, or Impulse-

Momentum analysis.

5. Understand angular momentum and its application to orbits.
6. Analyze and solve problems involving systems of particles.
7. Apply the principles of kinematics to the motion of a rigid body in general plane motion.
8. Solve problems involving the plane motion of a rigid body using Newton's Second Law, Work-Energy, or Impulse-Momentum analysis.

## **EGR 283 - Strength of Materials**

Elementary analysis of the strength and deformation of deformable bodies. Topics include stress-strain, torsion, bending, Mohr's circle, flexure, energy methods, columns, and virtual work.

### **Prerequisite- Corequisite**

Prerequisite: EGR 281 Mechanics (Statics).

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand and work with the basic definitions of stress and strain.
2. Understand the relationships between working stress, material strength, and safety factor.
3. Understand Mohr's circle and be able to determine principal stresses.
4. Calculate stresses for axial, torsion, beam bending, and combined loading.
5. Draw shear and bending moment diagrams and write beam equilibrium equations including slope and deflection.
6. Understand the concepts underlying beam deflection and Euler buckling calculation.
7. Analyze beams, columns, and frames for normal, shear, and torsion stresses and to solve deflection problems in preparation for the design of such structural components.
8. Analyze beams and draw correct and complete shear and moment diagrams for beams.
9. Understand loads, stresses, and strains acting on a structure and their relations in the elastic behavior.
10. Understanding the states of stress and strain and the mechanical behavior of materials.
11. Solve simple problems involving the stiffness and strength of materials.
12. Use spreadsheets and computer programming techniques to model course concepts and complete basis designs.

## **EGR 284 - Materials Science**

Atomic model, bonding, lattice concept, crystal types, imperfections, stress and temperature effects, phase diagrams, alloys, ceramics, polymers, composites, corrosion, electrical and magnetic properties materials.

### **Prerequisite- Corequisite**

Prerequisite: PHY 182 Engineering Physics II and CHM 145 Chemistry.



Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student should be able to:

1. Select the proper materials for designing a part or process.
2. Determine the processing needed to produce the necessary hardness.
3. Determine the methods needed to produce the necessary toughness and strength.
4. Design the processes required to produce the needed electrical, magnetic, and other properties.
5. Utilize the relationships between synthesis and processing.
6. Use the techniques learned to transform materials into useful devices and structures.

## **EGR 285 - Electrical and Electronic Circuits**

(Available in ASL mode) Units and definitions; charge, current, voltage, power, energy. Ohm's Law, active and passive elements, independent and dependent sources. Resistance, Kirchhoff's Laws, network reduction. Nodal and mesh analysis techniques, source transformation, superposition. Thevenin's and Norton's theorems, maximum power transfer. Capacitance and inductance; natural, forced, and complete response of switched R-L, R-C, and R-L-C circuits. A.C. Sinusoidal steady state analysis. Ideal and practical operational amplifier circuits. Frequency response of parallel and series R-L-C circuits and filter networks. Computer aided circuit analysis using PSPICE.

**Prerequisite- Corequisite**

Prerequisite: MAT 182 Calculus II and EGR 289 Introduction to Microprocessors.

Credits: 3

**Hours**

3 Class Hours;

## **EGR 287L - Engineering Design III**

This course is the third course in a four course design sequence. This course is intended to prepare engineering students for the future challenges of design. Design is presented as the integration of creativity, knowledge, skills, collaboration and hard work to solve problems. Emphasis will be on achieving design solutions that are high quality, innovative, low cost, and produced quickly. The design process provides a structure in which the various phases of design occur in a logical and efficient sequence in order to arrive at the most successful outcome. This course will present the best of traditional design practices as well as several design tools. Creativity methods will be presented and creativity encouraged in the course. Group design projects with oral presentations are required as part of this course.

**Prerequisite- Corequisite**

Prerequisite: EGR 151 Engineering Design II.

Corequisite: EGR 289 Introduction to Microprocessors.

Credits: 1

**Hours**

3 Lab Hours

## **EGR 288L - Engineering Design IV**

This fourth course in design is intended to prepare engineering students for the future challenges of design. Design is presented as the integration of creativity, knowledge, skills, collaboration and hard work to solve problems. Emphasis will be on achieving design solutions that are high quality, innovative, low cost, and produced quickly. The design process provides a structure in which the various phases of design occur in a logical and efficient sequence in order to arrive at the most successful outcome. This course will present the best of traditional design practices as well as several design tools. Creativity methods will be presented and creativity encouraged in the course. Group design projects with oral presentations are required as part of this course. Students are encouraged to enter their completed design projects in regional and national competitions.

**Prerequisite- Corequisite**

Prerequisite: EGR 287 Engineering Design III.

Credits: 1

**Hours**

3 Lab Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Write and execute simple problems in machine language on a single board microprocessor. These programs should include use of:
  - a. masks
  - b. condition codes
  - c. double precision
  - d. operations of addition, subtraction, multiplication, division, and squares
  - e. number conversion among binary, octal, hexadecimal, and BCD
2. Wire a memory mapped circuit for input and output.
3. Interface the microprocessor with a teletype via parallel to serial.
4. Wire circuit which uses the PIA for input and output.
5. Determine the wavelengths of the Balmer series in the hydrogen spectra.
6. Accurately determine the ratio of charge to mass for an electron.
7. Understand the operation of the Geiger Tube and Scaler.
8. Determine the maximum energy of a beta particle by the absorption method.
9. Determine the percent of backscattering of a beta particle for aluminum and lead as a function of thickness.
10. Determine the albedo of water and the thermal neutron flux of the plutonium-beryllium source.

## **EGR 289W - Digital Logic and Microprocessors**

An introduction to microprocessors with digital logic, machine and assembly language programming, serial and parallel input/output, A/D, and hardware interfacing with switches, lights, etc. Projects and simulation laboratory experiences using EWB are included as part of this course.

**Prerequisite- Corequisite**

Prerequisites: PHY 182 Physics for Engineers & Scientists II: Sound, Light, Electricity and Magnetism.  
Corequisite: EGR 287 Engineering Design III.

Credits: 3

**Hours**

2 Class Hours, 3 Laboratory Hours

## **EGR 298 - Cooperative Work Experience**

Student/s undertake/s an independent supervised work experience in industry under the guidance of a faculty member. Only one cooperative work experience course allowed per semester. Equivalent Load.

**Prerequisite- Corequisite**

Prerequisite: Department approval.

Credits: (1-4)

**Hours**

1 Class Hour;

## **EGR 299 - Independent Project**

The student/s undertake/s an independent project in his/her specialty under the guidance of a faculty member. Only one independent study course allowed per semester. Special consideration will be given to design projects.

**Prerequisite- Corequisite**

Prerequisite: Department approval.

Credits: (2-4)

## **EMT 110 - Basic Emergency Medical Technician**

Prepares student for basic level life support. How to assess medical emergencies and function with no special equipment. Lecture and lab format allows student hands on practice with triage, vital signs, bandaging and splinting, rescue breathing and CPR. CPR Certification is part of this class.

**Prerequisite- Corequisite**

Prerequisite for PMD 201 Paramedic.

Credits: 8

**Hours**

110 Lecture Hours; 10 Lab Hours;

**Note**

May be taken by any student.

## **EMT 120 - Intermediate Emergency Medical Technician**

Focus on trauma skills with intravenous therapy and advanced airway management.

**Prerequisite- Corequisite**

Prerequisite: EMT 110 Basic Emergency Medical Technician Lecture/Laboratory.

Credits: 6

## **EMT 130 - Critical Care**

Knowledge of the acute and critical changes in physiology, pathophysiology, and clinical signs and symptoms of acute disease and trauma states as they pertain to pre-hospital emergency care.

**Prerequisite- Corequisite**

Prerequisite: Current New York State EMT Certificate (Basic) Lecture/laboratory.

Credits: 12

## **ENG 090 - Basic Language Skills**

A writing-workshop course designed to prepare inexperienced writers for the critical thinking and academic writing that are the foundations of English 110. Students learn to write essays that are focused, full, and coherent. Students also learn to edit their writing according to the conventions of standard written English.

**Prerequisite- Corequisite**

Prerequisite: Placement Test.

Credits: 0

**Hours**

4 Class Hours - 4 Credit-Equivalents

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:



1. Identify the act of writing as a multi-stage process that includes composing, revision, editing and proofreading.
2. Complete both informal and formal writing assignments to learn that writing has several purposes: to permit self-expression and self-reflection, to communicate information with others, to enhance learning, to entertain and persuade others. (We expect that students will complete at least 20 pages of formal writing over the course of the semester.)
3. Develop their ability to write purposefully, to articulate that purpose in writing and in conversation with others, and to recognize and articulate the authorial intent grounding a piece of writing.
4. Develop their critical reading skills so as to better identify their own and the academy's beliefs regarding good writing, and to identify an author's purpose in writing, and the choices an author has made to achieve that purpose.
5. Develop their critical thinking skills by receiving, evaluating and incorporating into their written work alternative perspectives on their writing and its contents.
6. Develop their understanding of the collaborative nature of writing by learning how to provide useful feedback to other writers and how to incorporate feedback from them into their written work.
7. Improve their ability to construct and arrange complete sentences into well-developed and coherent paragraphs. Students will improve in their ability to structure essays, so that logical flow of the essay supports the essay's main idea.
8. Gain skill in identifying and correcting sentence-level errors that interfere with a reader's understanding of a text and less significant errors that nevertheless constitute a break with the conventions of standard writing English.
9. Utilize various strategies to edit a text successfully for major and minor sentence-level errors and proofread successfully for typographical errors.

## ENG 106 - English as a Second Language, Intermediate II

Advanced study of the English language for international students. Emphasis on the development of basic English compositional skills. Continued practice in listening, reading, and speaking.

### Prerequisite- Corequisite

Prerequisites: ESL 113 Intermediate Composition, ESL 114 Intermediate Speech, ESL 115 Intermediate Reading, or Chairperson approval. Corequisite: SPK 106 Speaking and Listening I for Non-Native Speakers of English, or Chairperson approval.

Credits: 4

### Hours

4 Class Hours;

## ENG 107 - English as a Second Language, Advanced I

This course integrates academic reading and writing and critical thinking for non-native speakers of English. Students practice different writing processes and rhetorical strategies in order to write essays that are purposeful, thoughtful, and coherent, and that conform to the conventions of standard written English. They practice vocabulary-building techniques and review grammatical structures needed for effective communication. They understand writing as a social and collaborative process.

### Prerequisite- Corequisite

Prerequisites: ENG 106 English as a Second Language Intermediate II and SPK 106 Speaking & Listening I for Non-Native Speakers of English, or Chairperson approval.

Credits: 3

**Hours**

3 Class Hours (equivalent to ENG 110 for International Students);

## **ENG 108 - English as a Second Language, Advanced II**

This course, designed for non-native speakers of English at an advanced level of proficiency in written English, focuses on sophisticated analysis and evaluations of texts and on the writing of essays that expand and refine thinking about issues and ideas from across the disciplines. Students analyze and evaluate ideas and information from a variety of sources, including electronic database and networks. They acquire the skills to choose the appropriate rhetorical stance for different ideas, purposes, and audiences, and produce thesis-centered essays as a result of synthesizing multiple positions on global issues.

**Prerequisite- Corequisite**

Prerequisites: ENG 107 English as a Second Language Advanced II or Chairperson approval.

Credits: 3

**Hours**

3 Class Hours (equivalent to ENG 111 for International Students);

## **ENG 110 - College Writing I**

Students learn to use writing to develop their thinking and to read texts critically for both form and content. They practice different writing processes and rhetorical strategies in order to write essays that are purposeful, thoughtful, and coherent, and that conform to the conventions of standard written English. They understand writing as a social and collaborative process, both as a mode of individual expression and as a rhetorical act.

**Prerequisite- Corequisite**

Prerequisite: Placement Test.

Students who earn a score of 85 or higher on the NYS ELA may enroll directly into ENG 110 without taking the Placement Test.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

SUNY General Education Assessment Review committee general writing outcomes:

- Students will demonstrate the ability to produce coherent texts within common college level forms.

- Students will demonstrate the ability to revise and improve such texts.

Upon successful completion of this course the student will:

1. Produce essays that make connections between their reading and their own personal experience and reinforce the practice of reading as a dialogic activity.
2. Produce essays that show they are able to communicate information and ideas from texts accurately and fairly in summary and critique. Their written work will contain references in the form of quotation and appropriate paraphrase. Student work will exhibit a writer's ethical obligations to readers: honesty, accuracy, and acknowledgement of and respect for other people's ideas. Students will show a familiarity with the principles of MLA in-text citation and writing Works Cited pages.
3. Evaluate sources for their relevance and reliability, and will show that they are able to do this by producing at least one essay that contains independent research containing at least three sources.
4. Show that they can revise their work effectively, taking into account different audiences and rhetorical purposes.

## ENG 111 - College Writing II

Students produce sophisticated analyses and evaluations of texts and write essays that expand and refine their thinking about important ideas and issues. They analyze and evaluate ideas and information from a variety of sources, including electronic databases and networks, providing appropriate documentation. Students extend their writing maturity by learning to choose an appropriate rhetorical stance for different ideas, purposes, and audiences, and to assert an original thesis as a product of synthesizing ideas from multiple perspectives.

### Prerequisite- Corequisite

Prerequisite: ENG 110 College Writing I or Placement Test.

Students who earn a score of 90 or higher on the NYS ELA may enroll directly into ENG 111 without taking the Placement Test.

Credits: 3

### Hours

3 Class Hours

### Course Profile

Learning Outcomes of the Course:

SUNY General Education Assessment Review committee general writing outcomes:

- Students will demonstrate the ability to produce coherent texts within common college level forms.
- Students will demonstrate the ability to revise and improve such texts.

Upon successful completion of this course the student will:

1. Find, review, and evaluate available literature to use in their writing, responsibly using electronic databases and networks, in addition to library and community resources. Student must show that they can choose appropriate and effective references; decide whether to quote, paraphrase, or summarize; write appropriate introductions and background for references; document correctly with an appropriate style (MLA, preferred, or APA); use references honestly and accurately; and avoid plagiarism.

2. Produce formal essays that are the product of a process of revision and demonstrate the ability to:
  - a. think critically
  - b. refrain from using stereotypes or jumping to conclusions
  - c. develop reasonable arguments about controversial issues
  - d. use various rhetorical strategies with sensitivity to purpose and audience
  - e. address all relevant sides of an issue
  - f. provide adequate support and evidence
  - g. use facts accurately
  - h. maintain respectful attitudes toward alternative ideas and opinions
  - i. establish their own style
  - j. write sentences that adequately carry the meaning of sophisticated ideas
  - k. conform to the conventions of standard written English

## **ENG 150 - Technical Writing**

This introductory course in technical communication offers a practical approach for writing and speaking effectively in professional, technical environments. The course emphasizes analytical methods for understanding and fulfilling the communicational needs of one's audience and gives students opportunity to practice and apply these communication techniques.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

### **Hours**

3 Class Hours

### **Note**

(This course is for students in Engineering Technology programs.)

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Analyze the rhetorical needs of primary and secondary audiences targeted to read business and technical documents.
2. Design and produce written texts which meet those readers' needs.
3. Organize, write/edit, format, and present information (especially business and technical information) in ways that increase the effectiveness of a message.
4. Collaborate effectively as members of problem-solving and writing teams, sensitive to the need of their teammates and to the nature and level of experience brought to the group by others.
5. Analyze a situation (either real or hypothetical) to identify a problem; effectively communicate a statement of the problem (in summarized and extended form), the steps involved in its solution, the time and approximate costs involved, and the writer's qualifications or expertise in regard to the problem.



## **ENG 163 - Reporting**

An introduction to news reporting for print journalism. Students will consider what makes the news and sources of news. Concentrating on newswriting as it is practiced by newspapers, they will analyze news stories, try out interview strategies, and write stories in which they follow newspaper conventions of structure and style. Students will participate in writing for the school newspaper.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

### **Hours**

3 Class Hours;

## **ENG 168 - News Editing**

An introduction to news editing and layout and design for print journalism. Students will explore editing, headline writing, caption writing, and page layout and design. Students will participate in editing the school newspaper.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

### **Hours**

3 Class Hours;

## **ENG 170 - Creative Writing**

Designed to provide students interested in imaginative writing with the opportunity to investigate concepts and to practice techniques implicit in prose, poetry, and drama. Class discussion, workshops, and personal conferences with the instructor.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

### **Hours**

3 Class Hours;

## **ENG 175 - Creative Writing with Publication**

Students interested in imaginative writing have the opportunity to investigate concepts and to practice techniques implicit in three genres: nonfiction, fiction, and poetry. In addition, the class publishes a 100-page bound annual book presenting creative works drawn from a campus-wide group of writers, which include staff, students, faculty, and alumni. Learning format involves class discussions, workshops, and personal conferences with the instructor. Students are expected to work on various aspects of magazine production, including soliciting, editing, and arranging pieces.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 5

**Hours**

5 Class Hours;

## **ENG 210 - Advanced Writing**

An intensive writing course that emphasizes critical and imaginative thinking as well as collaboration among writers. The course provides a supportive environment in which students work rigorously to continue their development as writers at the same time that they acquire strategies to support the growth of their fellow writers. The course includes a tutoring component that requires a 10-hour commitment to tutoring in the Writing Center. Students begin their tutoring at mid-semester. To benefit from the course, the student need not be an accomplished writer but should enjoy writing and have an interest in helping other writers.

**Prerequisite- Corequisite**

Prerequisite: Eng 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours;

## **ENG 212 - Writing on the Net**

This course will investigate how writing changes for both the writer and the reader when presented on a network of computers with multimedia. Students will explore writing on several networks, including LAN, Internet, and the Worldwide Web, and study how the roles of reader and writer change in networked text. They will discover and analyze the growing number of e-zines that have arisen on the Web, will work with the powerful research tools available on the Net, and finally will develop their own home page model. No computer expertise will be needed.

**Prerequisite- Corequisite**

Prerequisite: Eng 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours;

## ENG 220 - Communicating About Ideas and Values

Critical analysis of issues and moral problems affecting all thinking adults. Selected readings organized around broad themes. Required writing assignments and oral communication. Required of most degree students.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I and completion of at least one (but preferably two) Writing Emphasis ("W") courses. Liberal Arts students will have also completed ENG 111 College Writing II.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate the ability to critically exam the suppositions and methods of proposals, positions, statements, etc.
2. Demonstrate the ability to gather and apply pertinent information, as it bears on critical examination.
3. Demonstrate the ability to evaluate the relative worth of various sources of information and forms of argument.
4. Demonstrate the ability to approach new or unfamiliar information or perspectives with a dispassionately inquisitive interest in their validity, merit, and application.
5. Demonstrate an improved understanding to local circumstances relative to wider geographic and historical horizons.
6. Demonstrate the ability to express observations, thoughts, and judgments in concise, technically correct language, in an orderly sequence, with logically developed supporting evidence and argumentation. The best of such expressions will employ nuances of phraseology, subtleties of rhetorical effect, and a range of knowledge beyond the conventional.

## ENG 299 - Independent Study: English

An individual student project concerned with advanced work in a specific area of language or literature. Conducted under the direction of a faculty member, independent study is concerned with material beyond the scope and depth of the ordinary course.

### **Prerequisite- Corequisite**

Prerequisite: One semester of college level work including ENG 110 College Writing I.

Credits: 3

### **ESL 3 - English as a Second Language Grammar 1**

English grammar for non-native speakers at the beginning level. Understanding and practice of basic grammar of American English, with a focus on form, meaning, and use in oral and written communication. Integrates grammar into practice of the other language skills. (This course is not acceptable for credits toward a degree.)

**Prerequisite- Corequisite**

Prerequisites: ESL Placement Test. Corequisites: ESL 004, and ESL 005, or Chairperson approval.

Credits: 4

**Hours**

4 Credit Hours;

### **ESL 4 - English as a Second Language Speaking & Listening 1**

Spoken American English for non-native speakers at the beginning level. Development of oral fluency and accuracy by integrating speaking, listening, and pronunciation skills. Practice in recognition and production of sounds, stress, rhythm and intonation patterns. Understanding and practice of basic language functions in oral communication. (This course is not acceptable for credits toward a degree.)

**Prerequisite- Corequisite**

Prerequisite: ESL Placement Test or departmental approval. Corequisites: ESL 103 and ESL 105.

Credits: 4

**Hours**

4 Class Hours;

### **ESL 5 - English as a Second Language Reading and Writing 1**

English reading and writing skills for non-native speakers at the beginning level. Introduction to basic reading skills and practice in reading beginning material. Focuses on sentence-level writing skills by using basic sentence patterns. Practice in writing responses to picture stories and reading texts, and in writing controlled compositions. Introduction to conventions of basic academic writing. (This course is not acceptable for credits toward a degree.)

**Prerequisite- Corequisite**

Prerequisites: ESL Placement Test

Corequisites: Concurrent enrollment in ESL 003, and ESL 004, or Chairperson approval.

Credits: 4

### **ESL 103 - English as a Second Language Grammar 2**



English grammar for non-native speakers at the low-intermediate level. Understanding and practice of fundamental grammar of American English, with a focus on form, meaning, and use in oral and written communication. Integrates grammar into practice of the other language skills. (This course is not acceptable for credits toward a degree.)

**Prerequisite- Corequisite**

Prerequisites: ESL 003, ESL 004, and ESL 005, ESL Placement Test or Chairperson approval.

Corequisites: ESL 104, and ESL 105, or Chairperson approval.

Credits: 5

**Hours**

4 Credit Hours;

## **ESL 104 - English as a Second Language Speaking & Listening 2**

Spoken American English for non-native speakers at the high-beginning to low-intermediate level. Development of oral fluency and accuracy by integrating speaking, listening, and pronunciation skills. Practice in recognition and production of sounds, stress, rhythm and intonation patterns. Understanding and practice of more complex language functions in oral communication. Development of fluency and confidence in listening comprehension and conversational skills. (This course is not acceptable for credits toward a degree.)

**Prerequisite- Corequisite**

Prerequisites: ESL 003, ESL 004, and ESL 005, ESL Placement Test or departmental approval.

Corequisites: ESL 103 and ESL 105.

Credits: 4

**Hours**

4 Class Hours;

## **ESL 105 - English as a Second Language Reading and Writing 2**

English reading and writing skills for non-native speakers at the low-intermediate level. Further development of reading skills and practice in reading low-intermediate texts. Focuses on sentence types and more complex sentence patterns. Introduction to prewriting strategies and paragraph structure. Further practice in academic writing skills. (This course is not acceptable for credits toward a degree.)

**Prerequisite- Corequisite**

Prerequisites: ESL 003, ESL 004, and ESL 005, ESL Placement Test or Chairperson approval.

Corequisites: Concurrent enrollment in ESL 103 and ESL 104, or Chairperson approval.

Credits: 4

**Hours**

3 Class Hours, 2 Laboratory Hours;

### **ESL 113 - English as a Second Language Grammar 3**

English grammar for non-native speakers at the high-intermediate level. Understanding and practice of high-intermediate grammar of American English, with a focus on form, meaning, and use in oral and written communication. Integrates grammar into practice of the other language skills.

#### **Prerequisite- Corequisite**

Prerequisites: ESL 103, ESL 104, ESL 105, ESL Placement Test or Chairperson approval. Corequisites: ESL 114, ESL 115, or Chairperson approval.

Credits: 4

#### **Hours**

4 Credit Hours;

#### **Note**

(This course is not acceptable for credits toward a degree.)

### **ESL 114 - English as a Second Language Speaking & Listening 3**

Spoken American English for non-native speakers at the intermediate level. Development of pronunciation, speaking, listening, and note-taking skills necessary for academic success. Practice in listening to lectures from a variety of topics and basic note-taking techniques. Speaking practice in oral presentations, interviews, and discussions.

#### **Prerequisite- Corequisite**

Prerequisites: ESL 103, ESL 104, ESL 105, ESL Placement Test, or departmental approval. Corequisites: ESL 113 and ESL 115.

Credits: 4

#### **Hours**

4 Class Hours;

#### **Note**

(This course is not acceptable for credits toward a degree.)

### **ESL 115 - English as a Second Language Reading and Writing 3**

English reading and writing skills for non-native speakers at the high-intermediate level. Practice in reading high-intermediate texts and development of critical reading skills. Practice in writing paragraphs and multi-paragraph compositions, and in using intermediate sentence patterns and correct spelling and punctuation. Introduction to essay writing. (This course is not acceptable for credits toward a degree.)

#### **Prerequisite- Corequisite**

Prerequisite: ESL 105 Reading and Writing 2, equivalent, or Chairperson approval. Corequisites: ESL 113 and ESL 114

Credits: 4

**Hours**

4 Class Hours;

**Note**

(This course is not acceptable for credits toward a degree.)

**FRE 101 - Beginning French**

An introduction to the basic principals of grammar. Emphasis on oral practice in classroom. Students will learn to appreciate the French culture through discussions and examination of real life situations in France & Francophone countries.

**Prerequisite- Corequisite**

Prerequisite: FRE 101 Beginning French for FRE 102.

Credits: 4

**Hours**

4 Class Hours;

**FRE 102 - Beginning French**

An introduction to the basic principals of grammar. Emphasis on oral practice in classroom. Students will learn to appreciate the French culture through discussions and examination of real life situations in France & Francophone countries.

**Prerequisite- Corequisite**

Prerequisite: FRE 101 Beginning French for FRE 102.

Credits: 4

**Hours**

4 Class Hours;

**FRE 201 - Intermediate French I**

Intensive review of grammar and syntax. A cultural, conversational and literary approach to French language. Students will continue learning about the French & Francophone cultures and examine them and be prepared to handle various situations.

**Prerequisite- Corequisite**

Prerequisite: FRE 102 Beginning French for FRE 201.

Credits: 3

**Hours**

4 Class Hours;

## **FRE 202 - Intermediate French II**

Intensive review of grammar and syntax. A cultural, conversational and literary approach to French language. Students will continue learning about the French & Francophone cultures and examine them and be prepared to handle various situations.

### **Prerequisite- Corequisite**

Prerequisite: FRE 102 Beginning French for FRE 201.

Credits: 3

### **Hours**

4 Class Hours;

## **FRS 101\* - Fire Prevention and Protection**

Methods, policies and procedures relative to establishing and operating appropriate fire prevention and protection programs.

Credits: 3

### **Hours**

3 Class Hours

## **FRS 103\* - Fire Fighting Tactics and Strategy**

Focus on pre-planning and the development of fire fighting tactics appropriate for a wide variety of hazards. Review of basic information and some local conditions. The case study method is used to develop plans and tactics relating to the student's own department.

Credits: 3

### **Hours**

3 Class Hours

## **FRS 105\* - Arson Investigation**

Fire investigations and arson. Responsibilities of the arson investigator, tools of the investigator, photography, electronic devices, laws pertaining to arson, motives and tools of the arsonist, courtroom procedures. A field experience will be included.

Credits: 3

### **Hours**

3 Class Hours



## **FRS 107\* - Legal Aspects of the Fire Service**

Laws and regulations as they pertain to the fire service and its personnel. Legal terminology necessary for the interpretation of pertinent laws and decisions. Legal status of the fire fighter, as well as fire fighter's rights, duties and liabilities. Responsibilities and powers of the service in enforcement of ordinances and codes.

Credits: 3

### **Hours**

3 Class Hours; Writing Emphasis Course.

## **FRS 108\* - Building Construction for Fire Science**

Fire fighters are confronted with many unknown factors at the fire ground. Among these is the unknown structural stability of the buildings they must enter. Basic principles of building construction and design with emphasis focused on fire protection concerns. Building materials included.

Credits: 3

### **Hours**

3 Class Hours

## **FRS 110\* - Computers in the Fire Service**

Introductory concepts of micro-computer use in Fire Science settings. Software packages, hardware and software purchasing relating to Fire Service usage, word processing, data base management and spreadsheet application to student generated problems.

Credits: 3

### **Hours**

3 Class Hours

## **FRS 200\* - Hazardous Materials**

Chemicals and chemical processes most closely involved in fire protection and fire fighting. Use, storage, transportation and disposal of hazardous materials with emphasis on flammable liquids, flammable solids, oxidizing materials, corrosive liquids, compressed gases. A writing emphasis "W" course.

Credits: 3

### **Hours**

3 Class Hours

## **FRS 201\* - Fire Service Hydraulics**

Application of the laws of mathematics and physics to properties of fluid states, force pressure and flow velocities. Emphasis on applying principles of hydraulics to fire fighting problems.

### **Prerequisite- Corequisite**

Prerequisite: MAT 092 or equivalent.

Credits: 3

### **Hours**

3 Class Hours;

## **FRS 204 - Protection and Suppression Systems**

Design, installation, operation, and trouble shooting of various systems. Extinguishers, alarms, sprinkler systems, chemical approaches, and Halon systems. Projects and field trip included.

Credits: 3

### **Hours**

3 Class Hours

## **FRS 205\* - Fire Department Administration**

Organization of the fire departments with emphasis on personnel management, distribution of equipment, maintenance of records, communications, data collection and community relations. ISO Grading Schedule.

Credits: 3

### **Hours**

3 Class Hours

## **FRS 250\* - Special Topics**

Exploration of special topics in Fire Protection Technology. May be repeated since topics will vary from semester to semester. Special topics have included The Psychology of the Firesetter and Code Enforcement.

Credits: (1-3)

## **FRS 299\* - Independent Study: Fire Service**

An individual student project in an area of fire protection or service beyond the scope of regular course-work. Conducted under supervision of coordinator and approved by department chairperson and Dean.

**Prerequisite- Corequisite**

Prerequisite: 6 Credits in FRS coursework and 6 Credits in General Education courses.

Credits: (1-3)

## **GEO 120 - World Cultural Geography**

Description and analysis of human or cultural use of physical space, economics, religious, linguistic, and political phenomena in major world areas. A regional approach is used to highlight the phenomena.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify major concepts in cultural geography including place, region, mobility, and cultural landscape.
2. Identify and discuss some of the elements of cultural geography, including the geographies of population, language, race and ethnicity, religion, and political geography.
3. Demonstrate an understanding of the relation of geography to such phenomena as urbanization and globalization.
4. Apply geographical knowledge to the analysis of contemporary local, regional, national, and international issues.

## **GER 101 - Beginning German**

Basic principles of grammar and syntax. Emphasis on oral practice in classroom. Written homework assignments supplemented by work in audio-lingual laboratory. Reading and discussion of graded literary and cultural texts.

**Prerequisite- Corequisite**

Prerequisite: GER 101 Beginning German for GER 102.

Credits: 4

**Hours**

4 Class Hours;

## **GER 102 - Beginning German**

Basic principles of grammar and syntax. Emphasis on oral practice in classroom. Written homework assignments supplemented by work in audio-lingual laboratory. Reading and discussion of graded literary and cultural texts.

**Prerequisite- Corequisite**

Prerequisite: GER 101 Beginning German for GER 102.

Credits: 4

**Hours**

4 Class Hours;

## **GER 201 - German Conversation and Composition**

Emphasis on the four language skills-reading, writing, speaking, listening-especially on speaking and writing. Intensive discussion of style, grammar and the contemporary idiom to enhance the student's ability to express himself in German.

**Prerequisite- Corequisite**

Prerequisite: GER 102 Beginning German.

Credits: 3

**Hours**

3 Class Hours;

## **HCM 193 - Introduction to U.S. Healthcare Systems**

A survey of the American Health Care System that examines the elements related to the organization, delivery, financing and planning of health services.

Credits: 3

**Hours**

3 Class Hours

## **HCM 194 - Healthcare Financing**

This course will present the United States' health care system from a cost perspective. Students examine the history of health care costs in the U.S., the nature of competition, the characteristics of the market for medical services that influence competition, and the implications of these factors on the health care sector of our economy. Special emphasis will be placed on the most current legislation and administrative proposals/ enactments.

**Prerequisite- Corequisite**

Prerequisite: HCM 193 or permission of instructor.



Credits: 3  
**Hours**  
3 Class Hours;

## **HCM 195 - Managed Health Delivery Systems**

Managed Health Delivery Systems is designed to engage students in a learning process about the intricacies of managed care. It will provide a core of basic information about managed care in the United States - history, promises and shortcomings. In addition, this course will focus on managerial parameters of managed care. Strategies for marketing services, physician recruitment and price quality competition will be presented in the context of the new market place realities. Finally, consumer health behavior and utilization dynamics will be discussed and evaluated from the standpoint of their practical rather than theoretical significance.

### **Prerequisite- Corequisite**

Prerequisite: HCM 193 or permission of instructor.

Credits: 3  
**Hours**  
3 Class Hours;

## **HCM 196 - Healthcare Ethics**

Health care ethics is designed for health care professionals and students planning to enter the health care field. It offers participants the chance to understand health care ethics. Some topics covered in the course will include: autonomy in long-term care settings and withdrawing fluids and nutrition, euthanasia, and physician assisted suicide (medicide); HIV, reproductive rights, allocating health care resources, institutional missions, and obligations, competition and entrepreneurship in health care, and rationing.

Credits: 3  
**Hours**  
3 Class Hours

## **HCM 197 - Economics of Health & Medical Care**

Economics of Health and Medical Care is designed for students that seek an understanding of the tools, vocabulary, and way of thinking about economics as it is applied to decision making in the delivery of health services, administration, and policy. The basic methods of micro-economics will be emphasized as tools to help individuals, organizations, and policy makers, make better decisions about health care in the United States.

### **Prerequisite- Corequisite**

Prerequisite HCM 193 and HCM 194.

Credits: 3

**Hours**

3 Class Hours;

## **HCM 198 - Long-Term Care**

Long-term care will be studied in its current and dynamic environment. Students will learn how longterm care has evolved in the United States. Specific emphasis will be placed on levels of care, payment systems, social and economic concerns, current legislative initiatives, and the future needs of our expanding long-term care population.

Credits: 3

**Hours**

3 Class Hours

## **HIS 100 - The Rise of the West: 1500-Present**

Introduction to both the study of history and the evolution of modern society, including its basic ideas, values and institutions, through an examination of Western Civilization. The Age of Transition - the Renaissance, the Reformation, the Scientific Revolution, and the Enlightenment. The Industrial Transformation, appearance of modern constitutional and authoritarian government, major socio-political ideologies - liberalism, socialism, communism, nationalism, imperialism, fascism, totalitarianism. The intellectual crisis of the 20th Century, World Wars I and II; the Rise and Fall of the Cold War.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Distinguish primary and secondary sources in history.
2. Read primary sources in history and formulate pertinent inferences and interpretations.
3. Identify some of the methods used by historians and social scientists to study the past.
4. Identify and describe the main political, economic, social, cultural, and religious conditions of late medieval/early modern Europe (1450-1789).
5. Identify and explain the increasing conflicts between a traditional, aristocratic society and emerging "modern" movements in the economic, political, social, cultural, and religious arenas.
6. Describe the industrial transformation and evaluate its consequences.
7. Identify and describe the movements of the 19th century age of "isms," including Imperialism, and evaluate their impact on European and non-European societies.
8. Explain why World War I was the product of mounting tensions within an increasingly "modern" European nation-state system.
9. Explain and assess how WWII grew out of a failed European peace and a series of interwar crises.
10. Explain and evaluate the impact of communism and fascism on 20th century European

civilization.

11. Identify and analyze the competing historical interpretations of the Cold War and the subsequent collapse of the Soviet Union.
12. Describe the factors giving rise to decolonization of the European empires and evaluate its consequences, focusing especially on the rise of globalization.

## **HIS 116 - The West and the World to 1500**

A course in world history to 1500CE. Prehistory and the origins of civilization. Development of early civilizations in western Asia, Africa, India, China, and the Americas. Classical Mediterranean civilizations (Greece, Rome). Medieval civilizations of Europe, Asia, Africa, and the Americas. Development of cities, writing, technology, trade, and cultural traditions. Material and cultural exchanges between civilizations. Beginnings of the modern world.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Distinguish primary and secondary sources in history.
2. Read primary sources in history and formulate pertinent inferences and interpretations.
3. Identify some of the methods used by historians and social scientists to study the past.
4. Identify some of the main features of human prehistory.
5. Distinguish the general characteristics of civilizations.
6. Identify the primary civilizations of the Old and New Worlds.
7. Identify some of the main features of some of the major religious and cultural traditions of Asia, Africa, and Europe to circa 1500 CE.
8. Explain the rise of the state and the development of distinct social groups and gender roles.
9. Locate the major trade routes of the Old World before 1500 CE.
10. Describe the general conditions that existed in the Old and New Worlds on the eve of modernity, circa 1500 CE.

## **HIS 117 - The West and the World Since 1500**

A course on modern Western civilization in relation to other civilizations and societies. Early modern societies of Europe, Asia, Africa, and the Americas. Age of discovery and the first colonial empires. Early development of world trade and cultural exchange. Renaissance and reformation, scientific, technological, and industrial revolutions. Age of the Atlantic revolutions in Europe and the Americas. Evolution of modern social and political life. Age of imperialism. Era of the two world wars and political changes in Europe, Asia, and the Americas. The Cold War and the collapse of the colonial empires. The contemporary world.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Distinguish primary and secondary sources in history.
2. Read primary sources in history and formulate pertinent inferences and interpretations.
3. Identify some of the methods used by historians and social scientists to study the past.
4. Describe the general conditions that existed in the Old and New Worlds on the eve of modernity, circa 1500 CE.
5. Identify the major changes in Europe and its relations with the rest of the world in the period 1500-1800.
6. Describe some of the major developments in Asia, Africa, and the Americas in the period 1500-1800.
7. Explain the origins and consequences of the Industrial Revolution.
8. Identify the major political developments of the period 1800-1914.
9. Describe the general crisis of the first half of the twentieth century and identify its global consequences.
10. Identify some of the main themes in global history since 1950.

## **HIS 130 - United States History I**

The United States from 1607 to 1877. The colonies, Revolution, Constitution, early national period, Jacksonian era, expansion, Civil War and Reconstruction, and Westward Movement. Survey of political, economic, social and cultural developments through most of the 19th century. Satisfies the civic education requirement.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Write clearly, speak cogently, and think critically about historical events and issues.
2. Identify some of the methods used by historians to study the past.
3. Name and discuss some contributions made to historical knowledge by archaeologists, anthropologists, and geographers.
4. Read primary historical sources and formulate pertinent inferences and interpretations.
5. Identify the cultural areas of native peoples in North America.
6. Evaluate the impact of European exploration on Europe, Africa, and North America, for example, the Columbian Exchange.
7. Explain the motivations of European powers and colonists and varying subsequent colonial developments consequent upon their actions.
8. Describe the various measures used by the European powers to control and profit from the New World colonies, as well as patterns of colonial compliance and resistance.
9. Identify some of the causes--long term and immediate, foreign and domestic--of the Revolutionary War(s) and independence from Great Britain.
10. Describe the composition and distribution of the North American immigrant population in the 18th



and 19th centuries.

11. Discuss the Constitution and Bill of Rights as well as the process of development and approval.
12. Distinguish the key issues between the federalists and anti-federalists and relate those issues to the development of political parties.
13. Discuss the nature of Jacksonian democracy, including ethnic, class, and regional affiliations, and the status of white men, women, native peoples, and African American.
14. Examine the causes and consequences of the market and transportation revolutions of the 19th century.
15. Evaluate how sectional differences, including slavery and diverse economic, political, and social interests, propelled the nation towards Civil War.
16. Recognize the short and long term consequences of the Civil War and Reconstruction.

## **HIS 131 - United States History II**

The United States from 1877 to the present. The closing of The Frontier, the American Empire, Progressive reforms, World War I, the Twenties, the Depression, The New Deal, World War II, the Cold War, the Civil Rights Movement, the Vietnam involvement, and the present. Emphasis on political, cultural, social, and economic & developments. Satisfies the Civic Education requirement.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Write clearly, speak cogently, and think critically about historical events and issues.
2. Identify some of the methods used by historians to study the past.
3. Name and discuss some contributions to historical knowledge made by archaeologists, anthropologists, and geographers.
4. Read primary historical sources and formulate pertinent inferences and interpretations.
5. Discuss the outcomes of the Civil War and Reconstruction.
6. Identify and explain causes and patterns of immigration to America, internal migration, and cultural changes as a result of those movements.
7. Explain the development of the American West--motives for westward expansion, impact on indigenous peoples, and national economic change.
8. Evaluate trends in the industrialization, commercialization, and urbanization of the late 19th and early 20th centuries.
9. Identify and appraise the Progressive responses to the social, economic, and political problems of the Gilded Age.
10. Distinguish motives and consequences of American expansionism and imperialism of the late 19th and early 20th centuries.
11. Describe American economic, diplomatic and military roles abroad and at home during World War I.
12. Review the economic, social, and political changes of the 1920s.
13. Name and discuss the causes and outcomes of the Great Depression, including the New Deal response.
14. Describe American economic, diplomatic and military roles abroad and at home during World War II.

15. Examine the various concerns of the Atomic Age, the Cold War in American life and politics, and the post-war era of the 1950s.
16. Discuss the various civil rights movements of American marginal populations, American Indians, women, sub-culture lifestyles, and African Americans in particular.
17. Examine the technological, political and social changes caused by the Space Race, the conflict in Vietnam, and the Great Society.
18. Evaluate the political and foreign policies of the 1980s and 1990s and understand the impact on America of the end of the Cold War.
19. Debate recent events of the 1990s and early 21st century and discuss implications for the future of America and Americans.

## **HIS 141 - History of Modern Latin America and the Caribbean**

History of Latin America and the Caribbean from independence to the present, emphasizing distinctive cultures, power relations between indigenous peoples and elites, the causes of political instability and economic backwardness. Close analyses of reform, reactionary, and revolutionary movements in the hemisphere and inter-American affairs.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the general nature of colonial Latin American societies.
2. Analyze the causes of the Latin American independence movements of the nineteenth century.
3. Identify major themes in the political, economic, and social development of Latin American societies in the nineteenth century, including reform, reaction, and revolution.
4. Discuss the causes of political instability and economic backwardness in Latin America in the twentieth century.
5. Identify some of the significant political leaders and movements in Latin America in the late twentieth and twenty-first centuries.

## **HIS 155 - War and the Western World**

A survey course from 1500 to the present examining the interaction of Western Civilization and warfare. Major emphasis will be on how warfare/military developments helped to shape Western Civilization as well as a distinctive Western style of warfare. Specific concern will be given to the role of gunpowder, industrialization, nationalism, as well as economic, social, and cultural factors. Exploration of how the West used its distinctive style of warfare to dominate the rest of the world and to spread Western influence and institutions will also be considered.

Credits: 3

### **Hours**

3 Class Hours

## **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the general nature of warfare in the early modern West, including theories of the "military revolution" of the period.
2. Identify some of the relationships between warfare and culture, politics, and society in the early modern West.
3. Discuss the causes and consequences of the Age of Revolution in the West, including the rise of mass armies.
4. Describe the nature of industrialization in the late eighteenth and nineteenth centuries, including the development of new technologies and strategies of war.
5. Identify the major belief systems of the nineteenth century West, including Liberalism, Conservatism, Socialism, and Nationalism.
6. Discuss the nature of imperialism and imperial wars in the late nineteenth and twentieth centuries.
7. Analyze the political, social, cultural, and military causes and consequences of the two world wars.
8. Discuss the period since 1945 in the West, including the Cold War, decolonization, and globalization, with a special emphasis on the nature of war in the contemporary world.

## **HIS 155-159 - SERIES Themes in Western Civilization**

Credits: 3

## **HIS 156 - Nature and Western Civilization**

A historical overview of human interaction with the natural system in the Western world; an exploration of the Western ideologies justifying the exploitation of nature; an examination of the present state of the global energy system; a critical investigation of various solutions for ecological problems.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify some of the major ideologies regarding nature in the history of Western thought.
2. Examine some of the major developments in the human relationship to nature in the West since 1500.
3. Identify some of the historical trends in energy use since 1500.
4. Identify some of the historical trends in pollution and other environmental issues since 1500.
5. Examine the present-day state of global environmental issues.
6. Discuss and analyze some of the various solutions proposed for energy and environmental problems today.

## **HIS 163 - Introduction to Chinese Civilization**

Survey of Chinese history and introduction to Chinese culture. Origins of Chinese civilization. Development of Chinese culture and religion in early Chinese history. Unification of China under the Qin and Han dynasties. Imperial China: institutions, social life, and culture. Relations between imperial China and other societies. Crisis of late Qing China. Chinese revolution, 1911-1949. China under Mao. Recent developments.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the main chronological divisions in Chinese history.
2. Identify some of the major elements in traditional Chinese culture.
3. Discuss some of the major social, cultural and political developments in ancient China.
4. Describe some of the main features of social and political life in imperial China.
5. Explain the origins of the Chinese Revolution.
6. Describe the course of the Chinese Revolution.
7. Identify the major events and developments during the rule of Mao Zedong.
8. Identify some of the major developments in China since 1976.

## **HIS 164 - Introduction to Japanese Civilization**

Survey of Japanese history and introduction to Japanese culture. Origins of Japanese civilization. Chinese and Korean influences in early Japan. Classical Japan (Nara and Heian periods): institutions, social life, culture. Medieval Japan: rise of the Bushi, new forms of Buddhism, social and cultural developments. Early modern Japan: wars of unification, Tokugawa period. Meiji Restoration and its consequences. The modernization of Japan: industrialization, imperialism, cultural changes, the Pacific War. Japan since 1945.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the main chronological divisions in Japanese history.
2. Identify some of the major elements in traditional Japanese culture.
3. Describe some of the major features of the political, social, and cultural life in Heian and medieval Japan.
4. Describe some of the major features of the political, social, and cultural life in Tokugawa Japan.
5. Account for the Meiji restoration and describe its consequences.
6. Identify some of the main features of Japan's modernization (1868-1953).
7. Identify some of the main developments in Japan since 1953.



## **HIS 175 - Local History**

This introductory study encompasses the history of Broome County and, where relevant, the larger upstate New York area. Areas of exploration include: early presence of the First Peoples (Native Americans) from the early woodlands period to the Iroquois Confederacy, late 18th and 19th century Anglo settlement with cultural, religious, and land use perspectives, canal, railroad, industrial and factory growth fueled by rural migrants and European immigrant groups, as well as recent changes in County growth and demographics. Historical methods of research will be used, along with actual exploration of historical aspects of the County, for instance, the homes of Riverside Drive or the Chenango Canal. We will utilize the archival and historical records on the premises of cooperative local institutions. Meets SUNY General Education requirement for US History for students scoring 85 and above on US history regents.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the main chronological divisions in the history of Broome County and its adjacent areas.
2. Describe the main features of Native American life in the region before colonization.
3. Discuss some of the major themes of the colonial and revolutionary periods in the local area.
4. Describe the development of the local area during the nineteenth century, against the backdrop of broader regional and national history.
5. Discuss the growth of important local businesses in the nineteenth and twentieth centuries, including Endicott-Johnson, IBM, and others.
6. Identify the major themes of local history in the twentieth century, against the backdrop of regional and national developments.

## **HIS 180 - Utopia: American Visions of the Good Society**

Examines the functions of the Utopian Impulse throughout American History by examining a series of thought experiments/or actual experimental communities. To include comparative analysis of various American utopian writers such as Edward Bellamy, C.P. Gilman and W. W. Wagar etc. Consideration will also be given to such experimental communities as the Shakers, the Oneida Perfectionists, the communes of the 1960s, etc.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the general nature of utopian ideas and practices.
2. Discuss the utopian impulse in American history.

3. Examine experimental communities such as the Shakers, the Owenites, the Oneida Perfectionists, and the communes of the 1960s.
4. Compare and analyze key works of utopian literature by such authors as Edward Bellamy, Charlotte Perkins Gilman, W. Warren Wager, and others, including their place in American history and culture.

## **HIS 183 - Women's History**

The "other" history: that of women from prehistory to the modern era. Review of philosophical, religious, social, and political attitudes about and practices toward women. Women's lives, achievements, and roles in Western and other civilizations. Emphasis is on the United States.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the various women's cultures in America and describe how they have changed over time.
2. Show an understanding of the influence in Western traditions, practices, and laws dealing with women upon developments in American women's history.
3. Demonstrate, through research, class discussion, and class presentations, a familiarity with research methods regarding historical records.
4. Complete at least one project demonstrating in-depth knowledge of one aspect of American women's history.

## **HIS 187 - The United States Civil War: Causes and Effects**

A study of American institutions within the time-frame of 1815-1877; examination and analysis of Antebellum politics, society, and culture; origin and nature of the American Civil War and the social, economic and political changes brought about by the War and Reconstruction. Approval for SUNY General Education requirement for US History pending.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe conditions in the United States in 1815.
2. Describe the development of sectional rivalries.
3. Identify major political conflicts in the Antebellum Period, such as the Missouri Compromise and the Nullification Crisis.
4. Describe some of the major features of slavery and Southern society and culture.
5. Discuss the major ideas of Abolitionism.

6. Identify the consequences of the Westward Expansion, such as the Wilmot Proviso.
7. Describe the development of the Republican Party.
8. Demonstrate an understanding of the significance of the election of 1860.
9. Discuss the life and ideas of Abraham Lincoln.
10. Identify the balance of forces in 1861.
11. Discuss some of the major military aspects of the Civil War.
12. Discuss some of the political, economic and social aspects of the war in the North and South.
13. Describe African-American experiences during the war, including Emancipation.
14. Discuss the Reconstruction and some of the long-term consequences of the Civil War.

## **HIS 188 - Vietnam and America**

A course on the Vietnam War and American society. Background: modern Vietnam, war and American culture, the Cold War. The War: military and political aspects, the soldier's experience. The homefront: social developments, the media, the anti-war movement. The legacy of the war. Meets SUNY General Education United States History requirement for students scoring 85 and above on the United States History Regents Exam.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Distinguish primary and secondary sources in history.
2. Read primary sources in history and formulate pertinent inferences and interpretations.
3. Distinguish and evaluate principal interpretations of the lessons of the Vietnam War.
4. Discuss the impact of Cold War events and American culture on the American response to conflict in Vietnam.
5. Identify the major features of Vietnamese geography, culture, and history.
6. Identify the principal historical "turning points" in the Vietnamese wars.
7. Distinguish and evaluate both actual and alternative military strategies of both Americans and Vietnamese.
8. Describe the war and post-war experiences of soldiers on all sides.
9. Explain how the United States military draft was organized and functioned and the impact of factors of race, class, and gender on the creation of the American forces.
10. Debate issues of the legality of this war and war generally, the nature of war crimes, and the war powers of the branches of the Federal government.
11. Examine a variety of Vietnamese perspectives on the war.
12. Describe the roles of women on all sides of this war.
13. Explain the social, cultural and political developments in the United States in this period and their impacts on the outcome of the war.
14. Debate the impact of the United States mass media in the support for the war and its outcome.
15. Discuss the ways in which the war has been represented in popular culture.
16. Examine social, political and economic effects on Vietnam and America after the war.



## **HIS 189 - First Peoples: Native American History**

An introduction to the history of Native North Americans from their earliest history to the present day. From New England to the Southwest, various Indian cultures will be examined by region and time period. Early creation beliefs, religious, social, and political practices, peace and conflict, family life, environmental adaptations, frontiers and borderlands, and archaeological and artistic survivals will be covered. Emphasis will be on the period since Europeans arrived in the present-day United States. Particular interest will be given our local Haudenosaunee (Iroquois), and their contacts with French and English colonists. Modern day legal and geographical conflicts will be reviewed. Approval for SUNY General Education requirement for US History pending.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify various Native cultures and their regions.
2. Demonstrate an understanding of the outline of pre-historic development, historic interactions with European settlers and governments, and modern Indian life.
3. Demonstrate, through written research and class discussion, a familiarity with research methods regarding historical records.
4. Complete at least one project demonstrating an in-depth knowledge of one aspect of the history of the First Peoples.

## **HIS 194 - Survey in African American History**

A survey of African American thought, including the ideas of Booker T. Washington, W. E. DuBois, Marcus Garvey, Martin Luther King, Jr., and Malcolm X. In addition, attention will be given to nineteenth century West Africa and the problems affecting African-American society. Meets the SUNY General Education requirement for United States History for students scoring 85 or above on the United States History Regents Exam.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe and apply some of the methods used by historians and social scientists to understand the past.
2. Identify important general concepts in the study of African-American history.
3. Describe the nature of the African slave trade.
4. Describe conditions in colonial America with special reference to African-Americans.
5. Discuss African-American roles in and responses to the era of the American Revolution.
6. Identify conditions of slave and free African-American life in the antebellum period.
7. Discuss the Civil War era with special reference to African-American experiences.



8. Identify the general conditions of African-American life from Reconstruction to the First World War.
9. Describe the Harlem Renaissance and related developments of the 1920s and 1930s.
10. Discuss the ideas of key African-American thinkers such as Booker T. Washington, W. E. DuBois, and Marcus Garvey, including their relation to conditions in Africa.
11. Identify important features of African-American experiences from the Second World War to the present.
12. Compare and contrast the ideas of important African American thinkers in the Civil Rights and post-Civil Rights eras, including Martin Luther King, Jr. and Malcom X.

## **HIS 210-280 - Special Topics in History**

Additional history courses are available besides those listed here in the College Catalog. For further information consult the college master schedule or department chair.

Credits: (1-3)

## **HIS 225 - Total War in the Twentieth Century**

Causes of war in the contemporary world, with a focus on the Second World War. A review of the settlement of the First World War and the events of the inter-war period that led to Second World War. The course of that war and the failure of the victors to create a settlement of peace for the world.

### **Prerequisite- Corequisite**

Prerequisite: HIS 100 The Rise of The West: 1500-Present, HIS 117 The West and the World Since 1500, or permission of instructor.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the conditions--political and military--leading to the outbreak of the First World War.
2. Discuss the consequences--political and military--of the First World War.
3. Identify the main causes of the outbreak of the Second World War in Europe and Asia.
4. Describe the balance of forces in the two theaters of operation at the start of the war.
5. Discuss the initial military strategies employed by all sides and describe how those strategies changed during the course of the war.
6. Discuss the entrance of the United States into the Second World War.
7. Describe the conditions of battle in the various theaters of operation.
8. Discuss the end of the Second World War and the military, technological, and political consequences of that War.

## **HIS 299 - Independent Study**

An independent study project which is beyond the scope of courses currently offered by the department, directed by a faculty member with approval of the department chairperson. Independent study does not satisfy the Liberal Arts requirement in history, and it may not be taken in lieu of a 100-series course.

### **Prerequisite- Corequisite**

Prerequisite: 3 hours of College History.

Credits: (1-3)

### **Course Profile**

Learning Outcomes of the Course:

Learning outcomes will be developed by the instructor and approved by the department chair and the Dean of Liberal Arts.

## **HIT 101 - Introduction to Health Information Systems**

Introduction to the organization of healthcare delivery and overview of the profession. Definition of, standards for, and development of both paper and electronic health records as to content, format, evaluation and completion. Numbering and filing systems, registries, indexes, forms and screen design are addressed.

Credits: 4

### **Hours**

3 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Trace the development of the health information profession and understand the responsibilities of the health information professional.
2. Identify the purpose and structure of AHIMA.
3. Recognize and describe the uses, users, and functions of the health record.
4. Understand the content, documentation requirements, and formats of the health record in various healthcare settings.
5. Understand the advantages of electronic health records over paper-based and hybrid records.
6. Identify and define terms, initiatives, and technologies used in the planning and implementation of the electronic health record.
7. Describe the purpose, development, and importance of healthcare data sets and standards.
8. Identify and define the various reimbursement methodologies for healthcare reimbursement.
9. Recognize the purpose, development, and maintenance of registries and indexes used in healthcare.
10. Understand the role that ethics plays in the health information profession.

## **HIT 106 - Medical Terminology**

A study of the language of medicine, including suffixes, prefixes and root words. Emphasis on terminology associated with the anatomic systems.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Develop an appreciation for the historical development of the medical language.
2. Identify and define the five basic word parts.
3. Understand the concept of analyzing and defining medical terms.
4. Recognize the rules on word building and be able to apply these rules when building medical terms from given definitions.
5. Define, pronounce, and correctly spell the word parts (combining forms, suffixes, and prefixes) presented within each chapter.
6. Define, pronounce, and correctly spell medical terms related to body structure, color, and oncology.
7. Define, pronounce, and correctly spell terms which are used to describe directional terms, anatomic planes, regions, and quadrants.
8. Define, pronounce, and correctly spell disease and disorder, surgical, diagnostic, and complementary terms that are associated with the following body systems: Integumentary, Respiratory, Urinary, Male and Female Reproductive, Obstetrics and Neonatology, Cardiovascular, Immune, Blood, and Lymphatic, Digestive, Eye, Ear, Musculoskeletal, Nervous, and Endocrine.
9. Identify, interpret, and correctly spell medical abbreviations associated with the above mentioned anatomic systems.
10. Interpret, read, and comprehend the medical language in simulated medical statements and documents.

## **HIT 107 - Medical Transcription and Correspondence**

Introductory course emphasizing the fundamentals of medical transcription. Orientation to equipment and software including authentic physician dictation organized by medical specialty. Transcription of various medical reports including chart notes, letters, history and physicals, consultation reports, and discharge summaries, while building typing speed and accuracy. Review of medical terminology related to the medical specialties.

**Prerequisite- Corequisite**

Prerequisites: HIT 106 Medical Terminology and MDA 104 Keyboarding and Medical Word Processing or BIT 100 Keyboarding, or concurrently.

Credits: 4

**Cross-listed**

MDA 106

**Hours**

2 Class Hours, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Produce an error-free transcribed letter, consultation, chart note, history and physical report, and discharge summary dictated by a variety of physicians.
2. Edit the transcript to correct obvious grammatical and punctuation errors, while identifying medical transcription inconsistencies.
3. Develop keyboarding skills and an increased knowledge of medical terminology, confidentiality, and professionalism.
4. Demonstrate the ability to utilize references and resources efficiently.

## **HIT 116 - Health Statistics**

A study of methods for compiling statistics for hospital administration, medical staff, and licensing and accrediting agencies. Vital statistics, public health statistics, and hospital statistics are covered. An introduction to research techniques with graphic presentation of medical data is also covered. Associated laboratory: includes applications of the principles learned in the lecture mode of this course.

### **Prerequisite- Corequisite**

Prerequisite: HIT 101 Introduction to Health Information Systems.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the types of vital statistics that are collected in the healthcare industry.
2. Explain statistical terminology used in the healthcare industry.
3. Compute census data.
4. Compute Percentage of Occupancy.
5. Calculate length of stay and discharge day statistics.
6. Discuss the following rates used in healthcare: mortality, obstetrical, autopsy, infection and other rates.
7. Explain and construct a frequency distribution.
8. Calculate measures of central tendency and variation.
9. Present data using tables, charts, and graphs.

## **HIT 144 - Clinical Practicum I**

Supervised practice structured so that students gain practical experience in applying knowledge to technical procedures in health information systems. Clinical hours: 6 hr/week for 10 weeks.



**Prerequisite- Corequisite**

Prerequisites: HIT 101 Introduction to Health Information Systems, HIT 116 Health Statistics, HIT 222 Medical Legal Aspects.

Credits: 2

**Hours**

4 Clinical Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the role of the HIM department in the overall function of the healthcare organization.
2. Observe the working relationships of the HIM practitioners and the departmental staff, facility staff, visitors and medical staff.
3. Demonstrate an understanding of the principles of patient confidentiality throughout the professional practice experience.
4. Demonstrate the characteristics of a professional in his/her attitude throughout the professional practice experience.
5. Follow and demonstrate an understanding of facility/departmental policy and procedures.
6. Gain practical experience in a variety of HIM functions under the supervision of experienced practitioners.

**HIT 203 - Computers in Health Care**

Identification of computer applications in the health care industry; types of hardware and software systems; components of a health care facility database; electronic patient records; principles of database coding design and data dictionaries; overview of systems approach in the selection and development of an information system; data quality; methods to control security and confidentiality; and strategies for report management.

**Prerequisite- Corequisite**

Prerequisites: CST 105 Understanding Computers, HIT 101 Introduction to Health Information Systems.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify computer applications in the healthcare industry.
2. Differentiate between the types of hardware and software used in healthcare.
3. Discuss the components of a healthcare facility database.
4. Identify electronic patient record systems.
5. Explain the principles of database coding design and data dictionaries.
6. Discuss a systems approach used in the selection and development of an information system.

7. Summarize the concepts that relate to data quality.
8. List the types of methods used to control security and confidentiality.
9. Discuss strategies for report management.

## **HIT 204 - Inpatient Coding System**

Principles and application of the ICD-9-CM coding system. Introduction to the Official Coding Guidelines for Coding and Reimbursement. Theory and practice of coding medical records using manual methods and encoder software systems.

### **Prerequisite- Corequisite**

Prerequisite: BIO 132 Human Biology II.

Credits: 4

### **Hours**

3 Class Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the structure and format of the ICD-9-CM Coding System.
2. Describe the types of diagnoses and procedures that are coded using ICD-9-CM.
3. Select and accurately code diagnoses and procedures using ICD-9-CM.

## **HIT 205 - Coding Practicum**

Supervised practice structured so that students gain practical coding experience in a simulated hospital setting. Laboratory hours: 6 hr/week for 5 weeks.

### **Prerequisite- Corequisite**

Corequisites: HIT 204 Inpatient Coding System and HIT 144 Clinical Practicum I.

Credits: 2

### **Hours**

2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Assign diagnosis and procedure codes using ICD-9-CM (both manually with the code books and with the encoders).

2. Validate coding accuracy using clinical information in the health record.
3. Compute DRG, POA indicators, and HACs using 3M coding software and Quantim coding software in the AHIMA Virtual Lab.

## **HIT 208 - Advanced Medical Transcription**

Transcription of authentic physician-dictated reports organized by body systems or medical specialties. Emphasis on advanced skills, developing accuracy, speed and additional detailed study of medical terminology. Emphasis on the basic medical reports as well as specialized reports relating to the various body systems. Emphasis also on using references and other resources efficiently, editing and proof-reading techniques.

### **Prerequisite- Corequisite**

Prerequisite: HIT 107 Medical Transcription or MDA 106 Medical Correspondence & Communication.

Credits: 4

### **Hours**

4 Class Hours;

## **HIT 210 - Management Principles for Health Information**

Principles of management, planning, organizing, controlling, and directing as they relate to and are integrated with specific applications to health information management functions. Principles of personnel supervision are also included.

### **Prerequisite- Corequisite**

Prerequisites: HIT 236 Quality Improvement, HIT 144 Clinical Practicum I.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Participate in the planning, design, selection, implementation, integration, testing, evaluation, and support for organization-wide information systems.
2. Use the principles of ergonomics and human factors in work process design.
3. Apply the fundamentals of team leadership and conduct continuing education programs.
4. Monitor staffing levels and productivity standards for health information functions, and provide feedback to management and staff regarding performance.
5. Communicate benchmark staff performance data and prioritize job functions/activities.
6. Use quality improvement tools and techniques to monitor, report, and improve processes.
7. Make recommendations for items to include in budgets and contracts, as well as monitor coding and revenue cycle processes.

8. Recommend cost-saving and efficient means of achieving work processes and goals.
9. Contribute work plans, policies, procedures, and resource requisitions in relation to job functions.

## **HIT 214 - Ambulatory Care Coding**

A study of CPT-4 and ICD-9-CM as it relates to ambulatory coding. An overview of ambulatory coding and data collection. Theories and practical applications of ambulatory payment methodologies.

### **Prerequisite- Corequisite**

Prerequisite: HIT 204 Inpatient Coding System.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the sections of the CPT book.
2. Discuss the format and organization of CPT.
3. Discuss the coding guidelines that relate to ambulatory care coding.
4. Accurately code medical services and procedures using CPT.
5. Accurately select diagnostic codes and CPT codes from ambulatory care records.

## **HIT 220 - Survey of Healthcare Delivery**

The study of the regulatory issues, content, use and structure of healthcare data and data sets as they relate to long term care facilities, home health agencies, hospice, mental health facilities, ambulatory care, physicians offices and others. The financing of health care services will be discussed as it relates to the various payment and reimbursement systems.

### **Prerequisite- Corequisite**

Prerequisite: HIT 101 Introduction to Health Information Systems.

Credits: 2

### **Hours**

2 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the various types of healthcare facilities.
2. Discuss the medical record systems used in healthcare facilities.
3. Explain the regulations that impact various types of healthcare facilities.
4. Discuss the role of HIM professionals in healthcare facilities.
5. Describe the reimbursement methodologies used throughout healthcare.
6. Identify the types of data sets used in healthcare facilities.



7. Explain risk management, legal and quality management concerns that relate to the various types of healthcare facilities.

## **HIT 222W - Medical Legal Aspects**

Introduction to legal aspects of medical records. Legal basis for medical practice, confidentiality. Patient's "Bill of Rights," voluntary and involuntary release of medical information. Authorizations and consents, professional liabilities, medical-moral issues such as abortion, euthanasia, sterilization, artificial insemination.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

### **Hours**

3 Class Hours

### **Note**

This course is designated as a writing emphasis course.

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Write position papers on bioethical topics.
2. Apply current laws, accreditation, and certification standards related to health information initiatives.
3. Apply policies and procedures for access and disclosure to personal health information.
4. Understand procedures regarding the release of patient information to authorized users.
5. Apply and promote ethical standards of practice.

## **HIT 236 - Quality Improvement**

A study of the components of a hospital-wide quality assurance program, including quality assessment, utilization management, credentialing, and risk management.

### **Prerequisite- Corequisite**

Prerequisite: HIT 222 Medical Legal Aspects, HIT 116 Health Statistics.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discuss the development of quality review in the healthcare industry.
2. Identify the pioneers of QI and discuss their theories.
3. Explain QI processes that include ongoing monitoring and evaluation.
4. Describe JCAHO standards that impact the quality of care in healthcare organizations.
5. Perform quality assessment audits, analyze the findings, and display findings using visual tools.
6. Discuss the development of utilization management in healthcare.
7. Identify the various components of utilization management that include preadmission, admission, and continued stay reviews.
8. Discuss the development of risk management programs.
9. Identify court decisions, federal regulations, and JCAHO standards that relate to risk management.
10. Explain risk identification and risk control activities used in the healthcare industry.
11. Develop quality improvement tools and policies that can be used in health information departments.

## **HIT 245 - Clinical Practicum II**

Professional practice experience in facilities, organizations and agencies related to healthcare. Students will gain practical experience in technical procedures and in developing professional attitudes in interacting with other professionals and consumers in the healthcare field. Clinical hours: 30 hr/week for 6 weeks.

### **Prerequisite- Corequisite**

Prerequisites: HIT 144 Clinical Practicum I.

Corequisites: HIT 210 Management Principles for Health Information, HIT 214 Ambulatory Care Coding, HIT 295 Health Information Seminar.

Credits: 6

### **Hours**

12 Clinical Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the role of the HIM department in the overall function of the healthcare institution.
2. Observe the working relationships of the HIM practitioners and department staff, facility staff, visitors, and medical staff.
3. Demonstrate an understanding of the principles of patient confidentiality throughout the professional practice experience.
4. Recognize and apply the characteristics of a professional in his/her attitude throughout the professional practice experience.
5. Follow and demonstrate an understanding of facility/departmental policy and procedures.
6. Gain practical experience in a variety of HIM functions under the supervision of experienced practitioners.

## **HIT 295 - Health Information Seminar**

Principles of health information consulting and business requirements for self-employment. Resume preparation and interviewing techniques demonstrated. Certification exam preparation. Guest speakers will give presentations on current topics in the Health Information field and the profession.

### **Prerequisite- Corequisite**

Prerequisite: HIT 245 Clinical Practicum II.

Credits: 2

### **Hours**

2 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Prepare an effective resume and cover letter and identify its purpose/value.
2. Apply networking in identifying employment opportunities.
3. Conduct oneself appropriately during a job interview.
4. Identify the advantages and disadvantages of consulting.
5. Identify the importance of earning the RHIT credential and become familiar with the RHIT exam preparation/application process.
6. Obtain valuable information on the various career opportunities for the HIM professional.
7. Gain further insight and knowledge in various HIM topics through review of pertinent literature.
8. Prepare for the RHIT exam by taking a mock examination.

## **HLS 111 - Introduction to Homeland Security**

An overview of homeland security. Evaluation of the progression of homeland security issues throughout New York and the United States. An examination of the roles undertaken and methods used by governmental agencies and individuals to respond to those issues.

Credits: 3

### **Hours**

3 Class Hours

### **Note**

Required for degree/certificate program

### **Course Profile**

Objectives:

Provide a broad overview of Homeland Security; Provide students with the goals and philosophy of Homeland Security; Help students identify the the specific roles that individuals and government plays in Homeland Security; Give students background information that will help them understand the historical development of Homeland Security; Provide student with information relative to programs and methods to meet Homeland Security needs in New York and the United States.

Outcomes:

List key events and people that have affected homeland security; Outlined the specific roles that individuals and governmental agencies play in homeland security; Summarize the programs and methods used to meet the homeland security needs of New York and the United States.

## **HLS 150 - Emergency Management**

A study of establishing a process and structure for systematic, coordinated, and effective delivery of emergency assistance to address consequences of major disaster or other emergency occurring in the United States. This course covers public and private responses, mitigation, and recovery measures carried out by state, federal and local governments. Topics include types of aid available to individuals and communities, intergovernmental emergency preparedness, planning, training, exercises, and coordination of efforts.

Credits: 3

### **Hours**

3 Class Hours

### **Note**

Required in a degree/certificate program

### **Course Profile**

Course Objectives:

Provide students with information to develop a model emergency response plan; Give students the tools they need to conduct an emergency drill; Provide information to students so they have a working knowledge of development and maintenance of emergency plans.

Outcomes:

Identify the types of emergencies that require multi-agency response and the functions of those agencies in responding to disasters; Describe the process used in impact assessment and the planning that goes into preparing for emergencies; Identify steps in recovery effort and agencies that provide services to assist in post-disaster relief; Develop a model emergency response plan for an individual, a family, a community, and an organization such as a service organization or church; Conduct an emergency drill.

## **HLS 200 - Theory and Practice of Terrorism**

A study of terrorism and why the United States is a terrorist target. Includes methods of terrorism, domestic and international terrorism, Islam and Radical Islam, terrorist operations, cyber terrorism, narco-terrorism, the mind of the terrorist, and organized crime's impact on terrorism.

Credits: 3

### **Hours**

3 Class Hours

### **Note**

Required in a degree/certificate program



## **Course Profile**

### **Objectives:**

Identify the economic and environmental impact on public administration and the private sector; Document the legal changes required to combat terrorism; Present research results on terrorism from the 1980s to the present either through internet sources, declassified documents, interviews, and text materials.

### **Outcomes:**

Describe the evolving definition of the terrorist personality and the goals of terrorism; Explain the identified roles within terrorist organizations; Identify the various active terrorist organizations and their relationships to each other and their respective goals; Explain various models for combating terrorism and the roles of government organizations in this effort; Identify the terrorists' organizations rationale for terrorism; Compare and contrast terrorist goals to freedom fighters' goals; Identify the economic and environmental impact on public administration and the private sector; Document the legal changes required to combat terrorism; Present research results on terrorism from the 1980s to the present either through internet sources, declassified documents, interviews, and text materials.

## **HLS 210 - Special Security Issues**

This course will cover a wide range of topics in Homeland Security related to transportation, border, and maritime security; executive protection; emergency communications; and infrastructure protection.

Credits: 3

### **Hours**

3 Class Hours

### **Note**

Required in a degree/certificate program

## **Course Profile**

### **Objectives:**

Identification and analysis of critical infrastructure systems including security and threat assessments. Includes mitigation of threats as well as evaluation and revision of security measures in order to protect critical infrastructures. Investigative and operational processes and procedures in Federal Law Enforcement operations for border security. Basic principles of executive protection. Transportation of cargo throughout the United States, including highways, railways, waterways, pipelines and airports and basic security practices that can be applied to threats to these systems, including cargo theft and drug trafficking.

### **Outcomes:**

List critical infrastructures; Evaluate security measures; Report methods to revise security of protection assets; Demonstrate mitigation of a critical infrastructure threat; Conduct information collection using the Internet and library resources; Physical boundaries that establish the United States; Explain the history of border establishment; Identify territories and commonwealths of the United States; Explain the history of Border Patrol and its role in Federal Law enforcement; Define Border Patrol within the organizational structure of Homeland Security; List the objectives of National Border Patrol Strategy; Explain the operational duties of Border patrol agents; Give details of

technological advances in law enforcement for Border Patrol; Explain processes used in detecting and investigating document fraud; Record legal considerations for arrest, interview and interrogation; Define jurisdiction, venue, and statutes related to prosecution; Demonstrate rudimentary principles of executive protection; Describe attributes of professional executive protection specialists; Explain defensive driving principles and building search related to executive protection; List legal liability issues in executive protection; Explain the effects of 9/11 on transportation; Define the role of TSA in transportation security; Explain security issues related to: Aviation security; Port security; Railway security; Busing security; Maritime security; Mass transit systems; Waterway security.

## **HMS 146 - Introduction to Gerontology**

Interdisciplinary study of the processes of aging. Focus on changes in the aging lifestyle and how they are transforming the United States and the international community. Policies, services, and resources that have been impacted by the changing age demographics.

Credits: 3

**Cross-listed**

SOC 146

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the biological, social, and psychological characteristics of older individuals.
2. Examine major national/international policies and understand their relationship to the process of growing older.
3. Demonstrate an understanding of the services and resources available to an aging population that is changing in terms of needs.
4. Critically reflect on personal issues with regard to aging.

## **HMS 147 - Eldercare Seminar and Internship**

Exploration of the physical, psychological, social and recreational needs of older individuals and how well these needs are met in a variety of eldercare settings. Weekly class seminars coupled with experiential activity. Four hours per week of service in local eldercare facilities is required.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the process of aging from a variety of developmental perspectives.
2. Demonstrate an understanding of the physical, psychological, social and environmental needs of older individuals.
3. Demonstrate an understanding of the purpose(s) of the various services provided in eldercare settings.
4. Demonstrate an understanding of the ways in which the provision of services in eldercare can conflict with the quality of life of older individuals.
5. Conceptualize methods for improving both practice and policy in eldercare.

## **HMS 240 - Perspectives on Death and Dying**

Individual and cultural perspectives on death and dying. Includes historical, psychological, socio-cultural, legal and ethical dimensions of the dying process, grief and bereavement, and communities of care.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an appreciation of the historical and sociocultural dimensions of death and dying.
2. Describe psychological, emotional, and physical elements of the dying process for individuals and caregivers.
3. Analyze concepts and theories related to end-of-life care including mourning and grief.
4. Apply legal and ethical principles to the analysis of complex issues in end-of-life care.
5. Explore multidisciplinary communities of care for dying persons and their families.
6. Evaluate appropriate resources for consumer decision-making regarding end-of-life care.

## **HMS 250 - Human Service Organizations**

Overview of agencies whose mission is to assist people with needs that develop in their lives. Emphasis is on human service organizations and the way these organizations function, their role in society, and the services they provide.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the variety of services provided by human services organizations.

2. Demonstrate an understanding of the challenges, demands, expectations, and opportunities that human service organizations face.
3. Appreciate the role of human service organizations and their importance to the social, economic, political, and cultural fabric of our society.
4. Appreciate human service administration and practice and the factors associated with organizations becoming effective and efficient.
5. Become better prepared to enter the human services as practitioner and professional.

## **HMS 260 - Special Topics on Aging**

In-depth study of current and/or topical issues related to the field of gerontology and working with the elderly. Possible topics include person-centered care, multigenerational living arrangements, aging policy, the ethic of care and the decline of aging seniors and the baby-boomer generation.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

To be determined upon selection of course topics (which vary from semester to semester).

## **HMS 290 - Human Service Field Experience**

A field placement in a health, human service or education setting, under the supervision of faculty and agency personnel. Weekly seminar to develop helping and relationship-building skills. Minimum of 10-hours of field work per week is required.

### **Prerequisite- Corequisite**

Prerequisites: ENG 110 College Writing I, HMS 250 Human Service Organizations and 6 credit hours of psychology and sociology.

Credits: 4

### **Hours**

2 Class Hours, 10 Field Experience Hours

### **Note**

For Human Services students only.

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Correlate knowledge of Human Services theories.
2. Demonstrate the ability to apply Human Service theories to actual practice environments.



3. Demonstrate an understanding of how the Human Service network of organizations functions to assess and meet client needs.
4. Apply skills to maintain personal well-being while in a setting that may lead to professional fatigue.
5. Critically reflect on Human Service values and professional ethics.

## **HST 100 - Seminar in Health Sciences**

This course will present an overview of the health science professions including, but not limited to, those offered at Broome Community College. The focus will be on both in-depth exploration of individual health careers and on how these professions collaborate and interrelate. An introduction to professional behavior and cultural diversity will be included. The class will also help students to develop learning strategies to enhance academic success and acquire a working knowledge of campus services.

Credits: 1

### **Hours**

1 Class Hour

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify one's own learning style and employ strategies that can facilitate academic success.
2. Identify the various student resources found on campus that are available to help each student achieve educational goals.
3. Identify one's own plan for academic success at BCC and be familiar with the various academic policies in place that affect each student.
4. Be familiar with the guidelines of HIPAA, and understand who it affects, as well as how to abide by the legislative guidelines of this policy.
5. Be familiar with the principles of ethical and professional behavior that is required of a healthcare professional.
6. Explain the importance of cultural awareness as it relates to healthcare.
7. Explain the importance of becoming an effective communicator in the role of a healthcare professional.

## **HST 225 - Total War in the Twentieth Century**

Causes of war in the contemporary world, concentrating on World War II. Review of the settlement of World War I and the events of the inter-war period that led to World War II. The course of the war and the failure of the victors to create a settlement of peace for the world.

### **Prerequisite- Corequisite**

Prerequisite: HIS 100 or HIS 117, or permission of the instructor.

Credits: 3

### **Hours**

3

## **HUM 101 - Western Humanities I**

Critical analysis of western culture through a thematic investigation of literature, philosophy, music, and the arts as found in the ancient Near East, classical Greece and Rome, and Medieval Europe.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe and apply some of the fundamental principles in understanding the arts and humanities.
2. Identify some of the major periods in the history of Western humanities, from the Ancient world to the Renaissance.
3. Identify some of the major stylistic conventions in the arts and humanities of each historical period.
4. Identify some of the influences of the arts and humanities from those periods on the contemporary world.

## **HUM 102 - Western Humanities II**

Critical analysis of Western culture through a thematic investigation of literature, philosophy, music, and the arts as found in the Renaissance, Early Modern Europe, and 19th to 20th Century Europe.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe and apply some of the fundamental principles in understanding the arts and humanities.
2. Identify some of the major periods in the history of Western humanities, from the Renaissance to the present day.
3. Identify some of the major stylistic conventions in the arts and humanities of each historical period.
4. Identify some of the influences of the arts and humanities from those periods on the contemporary world.

## **HUM 103 - The Shock of the New: 20th Century Culture**

A course on the humanities in the twentieth century. The nineteenth-century background. Developments in modern thought. Modernism in music, the visual arts, and literature, 1880-1940.

Major cultural movements (expressionism, surrealism, etc.). High modernism, 1940-1975. New directions in culture (international style, theater of the absurd, etc.). Late twentieth century developments, 1975-2000. Recent trends in art, music, and literature (magic realism, the new classicism, etc.).

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify some of the major interpretations of the nature of modernism and postmodernism in the arts and humanities of the twentieth century.
2. Describe some of the major movements in the arts humanities from the late nineteenth century to the late twentieth century.
3. Describe some of the major political, social, economic, and institutional influences on the arts and humanities in the twentieth century.
4. Identify some of the influences of twentieth century arts and humanities on the contemporary.

## **HUM 104 - Introduction to Classical Mythology**

This course is designed to introduce the basic substance of the stories which constitute classical Greek mythology. The course is also meant to provide experience in reading and understanding those stories in their original context - so far as that can be determined - in order to discern how they have continued to influence Western art and culture to express the values of that art and culture. Key traditional interpretative methods will be examined and applied to the Greek myths.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe some of the major interpretations of mythology in human culture.
2. Discuss some of the chief characteristics of Greek mythology.
3. Identify the major categories of Greek mythology.
4. Summarize some of the major myths and legends of ancient Greece.
5. Discuss the influence of Greek mythology in ancient Rome and on later works of art, music, literature, and film.

## **INT 110 - Interior Design Studio I**

This studio course requires the student to become well acquainted with the designed physical environment. Practical, aesthetic, and psychological aspects of the built environment are addressed. Conceptualizing space through use of orthographic rendering to scale is stressed. Visual presentation

techniques are introduced. The design vocabulary is applied to interior spaces. The design projects emphasize affordable residential solutions and sustainable design.

**Prerequisite- Corequisite**

Prerequisites: ART 105 Introduction to Two-Dimensional Design, CIV 159 Architectural Drafting w/CAD, or CIV 119 Architectural Drawing w/CAD.

Credits: 4

**Hours**

2 Class Hours, 4 Studio Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply the fundamental language of design to the process of building interior space within a specific environmental context.
2. Identify and utilize the basic steps of creating successful design including initial research, design development, and presentation to client.
3. Analyze and balance practical versus aesthetic elements enabling students to obtain clarity, creating an optimal interior for specialized use.
4. Demonstrate an intuitive sense towards design solutions, meaning learning to see the end result of their efforts in their minds, before actual execution.
5. Discuss and explain design ideas in a clear and coherent manner to peers and professionals.

## **INT 120 - Surface Materials for the Interior**

Appropriate use of fabrics, wood, laminates, tiles, vinyls, metals and glass is introduced. Durability, cleanability, and flammability of materials will be studied emphasizing sustainable and green design. Aesthetic considerations will be explored. Field trips are an integral part of this course. Excellent for students interested in the building or hospitality industry. Required for Interior Sequence students.

Credits: 2

**Hours**

2 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Continue research for new design products that are appropriate for residential and commercial applications.
2. Understand functional and aesthetic qualities of interior design products useful for a variety of applications.
3. Develop an intuitive and analytical approach to choosing interior products that will function and visually work together. Always consider the relationships between focal point, line, shape/form, color, texture and pattern, and quality of natural and artificial light.

## **INT 210 - Interior Design Studio II**



Two complex interior projects are assigned. At least one of the projects makes use of an existing space. Students develop and present the projects through the process of conceptualizing space, drawing schematics and perspectives, rendering in scale, and creating material boards. AutoCAD in combination with hand drawing will be used. A full client presentation is made for each project using graphics, oral, and writing skills. The assigned projects are excellent for inclusion in portfolio for transfer or job application.

**Prerequisite- Corequisite**

Prerequisites: ART 105 Meeting Human Needs I; CIV 105 Introductory to AutoCAD; CIV 159 Architectural Drafting I w/CAD or CIV 119 Architectural Drawing w/CAD; ART 111 History of Decorative Arts: 1600-present or ART 113 History of Modern Design; INT 120 Surface Materials for the Interior or permission of instructor.

Credits: 4

**Hours**

2 Class Hours, 4 Studio Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Develop a sense of responsibility towards the satisfaction of their client and the integrity of their own design work.
2. Understand the importance of time management and meeting deadlines under less than optimal conditions.
3. Strengthen their communication skills and learn to work with clients and other professionals enabling them to recognize the importance of team effort.
4. Solve design problems transforming design theory into practical application.
5. Develop a sensitive and critical eye strengthening their ability to suggest appropriate and inappropriate design solutions to clients therefore improving the human environment.
6. Understand how to achieve a high level of self-sufficiency in the profession of Interior Design through self-motivation, self-discipline, organizational and research skills, negotiating skills, and decision-making skills.
7. Produce tangible products in the form of presentation documents.

**INT 299 - Independent Study: Interior Design**

See ART 299

Credits: (1-4)

**ITA 101 - Beginning Italian**

Basic principles of grammar and syntax. Emphasis on oral practice in classroom. Reading and discussion of graded literary and cultural texts.

**Prerequisite- Corequisite**

Prerequisite: ITA 101 Beginning Italian for ITA 102.

Credits: 4

**Hours**

4 Class Hours;

## **ITA 102 - Beginning Italian**

Basic principles of grammar and syntax. Emphasis on oral practice in classroom. Reading and discussion of graded literary and cultural texts.

**Prerequisite- Corequisite**

Prerequisite: ITA 101 Beginning Italian for ITA 102.

Credits: 4

**Hours**

4 Class Hours;

## **ITA 201 - Intermediate Italian I**

Comprehensive review of grammar and structure of the language. Intensive reading of literary works as a basis for topics of conversation in Italian in the classroom. Emphasis on aural comprehension and oral practice in classroom.

**Prerequisite- Corequisite**

Prerequisite: ITA 102 Beginning Italian.

Credits: 3

**Hours**

3 Class Hours;

## **ITA 202 - Intermediate Italian II**

Intensive reading of literary works of recognized authors as a basis for topics of conversation in Italian in the classroom.

**Prerequisite- Corequisite**

Prerequisite: ITA 201 Intermediate Italian I.

Credits: 3

**Hours**

3 Class Hours;

## **ITA 299 - Independent Study: Italian**

An individualized student project concerned with advanced work in specific area of Italian. Conducted under the direction of a faculty member, independent study is concerned with material beyond the scope and depth of the ordinary course.

### **Prerequisite- Corequisite**

Prerequisite: 3 semester hours of college level work in Italian.

Credits: (1-3)

## **LAW 110 - Survey of Paralegalism**

Role of the paralegal and attorney. Introduction to jurisprudence and functions of administrative agencies. Local, state, federal courts. Introduction to contracts, torts, negligence, criminal procedure, real property law, law office management. Legal terminology.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Recognize the jurisdictional structure of the New York State court system.
2. Recognize the jurisdictional structure of the local court system.
3. Recognize the original and appellate distinctions of the judicial system.
4. Prepare legal documents pursuant to NYS statutory law.
5. Apply the rules learned to the preparation of legal documents.

## **LAW 200 - Real Property Law**

Comprehensive survey of law of real property, emphasizing, practical application to a paralegal function. Analysis of form of deeds, bonds, notes, mortgages, assignments, discharges, purchase of contracts, leases and options. Training in searching title, basic understanding of abstracts of title, real property litigation, estates, condemnation and foreclosure.

### **Prerequisite- Corequisite**

Prerequisite: LAW 110 Survey of Paralegalism or permission of department.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define the legal terminology regarding the ownership, acquisition and conveyance of Real Estate.
2. Articulate an understanding regarding the distinction between Personal and Real Property.
3. Understand the Law of Fixtures by identifying various legal texts used in fixture law.
4. Understand the process of transferring title to Real Estate; including the use of deeds, mortgages, promissory notes, real estate contracts, and closing statements and prepare such statements.
5. Close the Real Estate transaction.
6. Articulate the difference between a buyer representation and a seller representation.
7. Understand the role of the County Clerk Records in the Real Estate Transaction by recording various documents.

## **LAW 207W - Legal Writing and Research**

Development of legal research and drafting skills through use of digests, reporter systems, and other features of law libraries. Analysis of various types of legal documents for clarity, composition, conciseness. Practice in research and drafting of legal documents. Writing Emphasis Course.

### **Prerequisite- Corequisite**

Prerequisites: LAW 110 Survey of Paralegalism, ENG 110 Written Expression I, and 3 additional credits in LAW or department permission.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of legal research by preparing an assignment using the Westlaw database and preparing a legal brief.
2. Demonstrate an ability to identify and argue legal issues by responding to a classroom legal fact pattern in written and oral format.
3. Illustrate an understanding in drafting legal documents by preparing legal briefs, courtroom briefs and legal position papers.

## **LAW 215 - Estates, Probates and Trusts**

Disposition of decedent's property, law of interstate succession, execution and probate of wills, nature and creation of trusts and the administration of estates and trusts, estate and gift tax preparation.

### **Prerequisite- Corequisite**

Prerequisite: LAW 110 Survey of Paralegalism or permission of department.

Credits: 3

### **Hours**

3 Class Hours



## **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Articulate the mechanics of the disposition of testate property by analyzing a will and having a client meeting which discusses the disposition.
2. Illustrate the substantive rules of will preparation by preparing a will.
3. Illustrate an understanding of intestate distribution by distributing the proceeds and preparing a written document which outlines the correct distribution.
4. Demonstrate an understanding of the probate process by filing a probate petition.
5. Demonstrate an understanding of the creation and administration of a trust by creating a trust.
6. Illustrate an understanding of the tax laws, both Federal and New York, which affect the estate by preparing an estate for file.

## **LAW 220 - Contracts**

The law of contracts, their historical significance, formation, validity interpretation, transfer or contractual rights. Assignment, third party beneficiaries, discharge, breach and remedies.

Credits: 3

### **Hours**

3 Class Hours

## **LAW 222 - Medical Law**

General coverage of how legal and medical issues are inter-related, including right to treatment, organ transplant, right to die, abortion issues, medical malpractice, informed consent, insanity defense, surrogate mothers. Lecture and discussion. How these topics affect the role of the attorney and paralegal in servicing client needs.

Credits: 3

### **Hours**

3 Class Hours

## **LAW 225 - Family Law**

Pleadings relative to general practice of law in relationships to the family unit. Laws relating to marriage, divorce, annulment, custody and support, adoption, name change, guardianship, paternity. Written pleadings and necessary research pertaining to these aspects of family law.

Credits: 3

### **Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Articulate an understanding of the rules governing the doctrine of equitable distribution by explaining the rules to a client in need of legal advice.
2. Demonstrate an understanding of current case law in the Family Law substantive area of the law by reading and preparing legal briefs of particular case law.
3. Demonstrate an understanding of the Divorce process by filing a petition in divorce and creating a separation agreement.

**LAW 226 - Taxation Law for Paralegals**

Principles of federal taxation, analysis of IRS code and related case law, emphasis on law and concepts of taxation, basic and advanced tax law terminology, litigation involving the IRS. Exploration of social changes, and factors involving tax problems, current issues in tax reform, perspective of the paralegal regarding resolution of tax disputes.

Credits: 3

**Hours**

3 Class Hours

**LAW 227 - Constitutional Law**

The practice of everyday general law as affected by the U.S. Constitution and the Bill of Rights. Issues of contemporary concern including cases of local courts and of the Supreme Court and their implications for law in general and society at large.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Illustrate an understanding of the role and jurisdictional position of the U.S. Supreme Court by preparing a jurisdictional chart.
2. Demonstrate an understanding of appellate and original jurisdiction by commencing a law suit in the jurisdictionally correct court.
3. Demonstrate an understanding of the procedural history of a case by briefing the original and all appellate court decisions in the correct order.
4. Articulate current laws based upon the established precedent.
5. Use rules established by case law to demonstrate an understanding of the U.S. Constitution.

**LAW 240 - Corporate Law**

Types; uses and organization of the corporation, antitrust and securities law, mergers and consolidation, liquidation and dissolution.

Credits: 1

**Hours**

1 Class Hour - 5 Week Session.

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the differences of the legal liabilities of the Corporation, Partnership, and Sole Proprietorship by preparing a chart which compares and contrasts those differences.
2. Illustrate the Corporate formation process by preparing a Corporation application for filing in New York State.
3. Use and demonstrate an understanding of the rules established by the Business Corporation laws of New York while meeting with a client.
4. Demonstrate an understanding of the jurisdictional rules relevant to a Corporate entity by correctly filing a Corporate legal cause of action.

## **LAW 250 - Municipal Law**

Structure and operations of local government in New York State. Evolution of local government in New York during the first two centuries of its existence. Laws, ordinances, and operations.

Credits: 1

**Hours**

1 Class Hour-5 Week Session.

## **LAW 251 - Federal Civil Procedure**

Federal court system, rules of civil procedure includeing pleading, motions, depositions, litigation procedures and the role of the paralegal.

Credits: 1

**Hours**

3 Class Hours-5 Week Session.

## **LAW 252 - Applied Real Estate**

Role of the paralegal in Real Estate transactions including agreements, abstracts, preparation of documents, contracts, and closing procedures. Students conduct a "mock" real estate transaction.

Credits: 1

**Hours**

3 Class hours-5 Week Session.

**LAW 253 - Computers in the Law office**

Computer applications including hardware and software, financial management, word processing, real estate practice packages, computerized research, litigation support, and document management.

Credits: 1

**Hours**

3 Class Hours-5 Week Session.

**LAW 260 - Labor-Management Relations (Labor Law)**

Labor-management relations in the public and private sectors. Taft-Hartley Act, National Labor Relations Act and Wagner Act, unfair labor practices, labor contracts, arbitration and mediation, availability of injunctions in labor disputes.

Credits: 1

**Hours**

1 Class Hour - 5 Week Session

**LAW 270 - Vehicle and Traffic Law**

Regulations of traffic within the state of New York. Emphasis on violations and traffic-related misdemeanors resulting from violation of the rules of the road and court proceedings resulting therefrom.

Credits: 1

**Hours**

1 Class Hour-5 Week Session.

**LAW 280 - Litigation and Trial Preparation**

Intake procedure, systems and analysis, concepts of jurisdiction and venue, parties to an action, pleadings, pre-trial procedures, motions and special practice, special proceedings, trials, judgments and appeals.

Credits: 1

**Hours**

1 Class Hour - 5 Week Session.



### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of case file selection by preparing and getting a passing grade in a classroom simulation project which requires a selection of case files based upon law firm requirements.
2. Demonstrate an understanding of legal confidentiality by reading and preparing position papers on confidentiality case studies.
3. Demonstrate an understanding of the pleadings known as complaint and answer by preparing a complaint and answer in acceptable legal format.
4. Demonstrate an understanding of the stages of a litigation proceeding by drafting, in proper format, various documents used to commence and proceed in a trial setting.

### **LAW 290 - Landlord-Tenant relations**

Problems faced by landlords and tenants, private housing, live-in arrangements, covenants, leases, warranties. Tenant and landlord rights and obligations.

Credits: 1

#### **Hours**

1 Class Hour-5 Week Session.

### **LAW 295 - Paralegal Practicum**

Designed for students without previous exposure to the legal field to observe and study operations, policies, and procedures performed by paralegals in various settings, (private firms, public agencies, commercial corporations, etc.). Students will be placed in the legal environment with emphasis on attorney and paralegal interactions and paralegal relations with areas outside the office (clients, municipal agencies, other firms, commercial institutions, other legal agencies, etc.). Final report integrating the practical and theoretical aspects of their experiences.

#### **Prerequisite- Corequisite**

Prerequisites: 30 credits of counseled coursework, at least 12 of which must be in LAW credits or permission of department chairperson.

Credits: 4

#### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the selected internship/practicum location by engaging in the workplace for a time frame of 100-125 hours during which time all rules, company policies, and company quality levels will be met or exceeded. These levels will be ascertained by the instructor prior to the beginning of the internship/practicum and will continue throughout the internship/practicum.

2. Illustrate an understanding of time sensitive work product by being assigned a time sensitive project and responding within the time frame with legally acceptable work produce.

## **LAW 299 - Independent Study: Paralegal**

An individual student project in paralegal studies which is beyond the scope or requirements of the courses offered by the program. Conducted under the direction of a faculty member or attorney, and approved by the program coordinator.

### **Prerequisite- Corequisite**

Prerequisite: LAW 110 Survey of Paralegalism plus three additional hours in a 200 level LAW course.

Credits: (1-3)

## **LIT 200 - Introduction to Literature**

An overview of the major literary genres and approaches to interpretation. Students will practice the process of literary analysis in oral and written forms.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

## **LIT 201 - Crime and Punishment**

This course focuses upon works of literature which incorporate the theme of punishment and justice. An additional theme of resistance to punishment will also be represented in course readings and lecture-discussions.

**Prerequisite- Corequisite**

Prerequisite: ENG 110, College Writing I.

Credits: 3

**Hours**

3 Class hours;

## **LIT 210 - Studies in United States Literature I**

A study of United States literature from Pre-Colonial times through the 19th century, exploring recurrent themes and motifs in the works of both newly discovered and long-recognized authors. Emphasis on engaging student curiosity, eliciting student response, and fostering student development of critical analysis and interpretation through close reading of texts, class discussion, and formal and informal writing assignments.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

## **LIT 211 - Studies in United States Literature II**

A study of United States literature from the late 19th century to the present, exploring recurrent themes and motifs in the works of both newly discovered and long-recognized authors. Emphasis on

engaging student curiosity, eliciting student response, and fostering student development of critical analysis and interpretation through close reading of texts, class discussion, and formal and informal writing assignments.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

## **LIT 214 - Studies in British Literature I**

History and development of British literature from the Middle Ages to the 18th century. Selections of literary merit from prose, drama, poetry.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.



5. Express their interpretation of work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

## **LIT 215 - Studies in British Literature II**

History and development of British literature from the beginning of the 18th century to the middle of the 20th. Selections of literary merit from prose, poetry, drama.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

## **LIT 220 - The Short Story**

Close reading and analysis of stories produced in different times and places. Attention to the relationships among author, text, reader, and context in the making of meaning.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

### **Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

## **LIT 225 - United States Latino Literature**

A literary overview of contemporary United States Latino/Latina literature. The course will focus on short stories, essays, poems, and films produced by this influential, fastest-growing cultural group. Works will explore themes of gender, sexuality, class, race, and color within the context of the cross-cultural American experience.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I

Credits: 3

**Hours**

3 Class Hours;

## **LIT 230 - American Drama**

A survey of American drama. Examination of dramatic theories and techniques, and consideration of historic and thematic problems in American drama.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

## **LIT 233 - World Drama**

A survey of world drama produced in both Western and non-Western cultures. Examination of dramatic theories and techniques, and consideration of dramatic themes common to diverse cultures.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

## **LIT 235 - Shakespeare**

Shakespeare as both dramatist and poet. Emphasis on selected comedies, histories and tragedies. Consideration of the playwright's life and times.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

**LIT 240 - The Poetic Experience: Sight and Sound**

This course exposes students to poetry from different countries and cultures, to important aspects of poetic language, and to diverse poetic forms. Students will read, discuss, and write about poetry, and strive to understand what poetry portrays of human experience. Students will also write poems about their own experience. In doing so, students will learn how poems are built or structured.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.



6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

## **LIT 250 - Women and Literature: Other Perspectives**

Critical analysis and evaluation of literary works by and about women produced in diverse socio-political contexts. Emphasis upon the relationship between the text and its cultural setting and upon other, non-traditional critical perspectives, including feminist perspectives.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

## **LIT 253 - Psychological Investigation in Literature**

The application of Jungian, Freudian, and other psychological theories and insights to selected short stories, novels, and poems to promote more penetrating appreciation of characters' motivations and actions and the literary work in general.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

**LIT 260 - Detective Fiction**

A critical study of one of the most popular literary forms of our time, designed for armchair detectives. Starting with Poe, Conan Doyle (Sherlock Holmes), and other classics in the field, the course traces the development of the detective story from its puzzle-solving beginnings to the modern psychological novel of crime and detection.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.

9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

## **LIT 263 - Children's Literature**

Close reading and analysis of a diverse selection of literature written for children including short fiction, novel, and poetry. Emphasis on the use of critical theories in investigating diverse interpretations of the texts and in exploring revelatory connections between the literature and contemporary human experience.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

## **LIT 264 - World Folktales: The Art of Storytelling**

Reading, analyzing, discussing, adapting, and retelling selected multicultural folktales transcribed from the oral tradition. Emphasis on the importance of motifs, narrative structure, recurring global themes, cultural and ethnic specificity, as well as the morphology of the tales. Identification of cross-cultural story techniques will build the story repertoire; diverse oral performance techniques will enhance motif and character analysis.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I

Credits: 3

**Hours**

3 Class Hours;

**LIT 267 - An Introduction to Science Fiction**

This course will survey science fiction works from various genres such as poetry, the novel, and the short story. It will provide students with a historical overview of the field of science fiction by exposing them, through readings and lectures, to works from the 19th and 20th centuries. Titles chosen will reflect their importance in the literary development of science fiction over the last two centuries. The essence of the course will consist of close readings and analyses of the texts for their artistic qualities as well as their representations of social trends and ideas. Students will learn how to do research on the Internet, as it is one of the foremost domains of current cyber fiction. One section of the course will deal with the history of science fiction in the cinema. Students will come away from the course with an understanding of hard science fiction, utopias and dystopias, cyber fiction, the pulps, fantasy fiction, the Golden Age, and speculative fiction.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

**LIT 270 - Twentieth-Century Working-Class Literature of North America**

An examination of literature in which 20th century North American working-class writers explore working-class life. Emphasis upon the investigation of broad themes, such as the role of work in the shaping of values and identity and the impact of work upon human relationships. Multi-ethnic and multi-racial perspectives; issues of gender and sexuality. Attention given to the sociocontexts in which works were produced.



**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I

Credits: 3

**Hours**

3 Class Hours;

**LIT 272 - Literature of the North American Wild**

This course aims to involve the student in the thinking of seminal writers who struggled to define human beings' relationship to the natural world. The approach is both literary and historical. It is historical in that it begins with the overwhelming effect that the fecundity of the new world had on writers and ends with the effect that profound environmental problems area having on thinkers who use the techniques and form of expression usually identified with writers of creative and imaginary literature. Students will read essays, fiction, and poetry. Some videos and media presentations will be viewed.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I

Credits: 3

**Hours**

3 Class Hours;

**LIT 274 - Introduction to African American Literature**

This survey course will introduce students to African American literature from Colonial America to the present. Various genres, representative works, and major writers will be examined in terms of development, theme, structure, and context. This will be a study of African American literature as both artistic and cultural expression.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours;

**LIT 276 - Native American Literature**

A survey of the literature of selected Native American tribes in distinct geographical areas of what is now known as the United States (focusing on the Northeast, Southeast, Plains, and Southwest). Critical reading of traditional and contemporary works, with emphasis upon translated myths, legends,

and songs handed down through the oral tradition. An examination of how Native American oral tradition, myth, and genre challenge "Western" notions of "literature." Investigation of the texts as both artistic and cultural expression.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours;

## **LIT 277 - Introduction to Irish Literature**

A survey of Irish literature in several genres-novels short stories, poetry, drama, essays, and criticism from the nineteenth century to the present. Students will read and critically analyze the work of major figures, such as Maria Edgeworth, W.B. Yeats, James Joyce, and Seamus Heaney, and of figures who are less well-known. Close attention will be paid to the ways in which Irish literary works respond to the pressures of Irish history and culture. A research paper is required.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses..
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

## **LIT 280 - The Short Novel**

An introductory course on the novel, focusing on shorter exemplars of the genre written in English since 1850. Emphasis on narrative technique, religious and philosophical ideology, as well as socio-

psychological themes. Students will demonstrate achievement through various writing and speaking activities and assignments.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I

Credits: 3

**Hours**

3 Class Hours;

## **LIT 285 - Autobiography**

An examination of a variety of autobiographies from various times, cultures, and backgrounds. Emphasis on detailed literary analysis of style, content, and context. Students will be expected to engage in memoir writing and other various personal writing exercises to better appreciate and critique the autobiographical experience.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Students will be able to express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

## **LIT 290 - Banned Books**

This course will survey literary works from several genres, including drama, novels, poems, and stories that have been censored or banned at one time and may still be prohibited in some places. The titles will be chosen for their importance to the study and interpretation of literature and to censorship history. Emphasis will be placed on close reading of the texts and on research into the

artistic, political, and social reasons for their censorship. Some of the reading material will come from free Internet sources such as The Gutenberg Project and Banned Books Online.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

**LIT 291 - Folklore and Fantasy**

This course will examine the roots and flowering of the modern genre of fantasy. Beginning with myth such as that found in Genesis and The Odyssey and fairytales such as "Beauty and the Beast," proceeding through the great heroic tale tradition of Beowulf and King Arthur, we will arrive at the great fantasy works of the last hundred years. We will use literary critical analysis to form a definition of fantasy that we can use as a touchstone with which to examine hybrids such as the Star Wars Epic and works yet to come.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate improvement of their ability at oral discourse by discussing and explaining their interpretive responses.
2. Demonstrate improvement of their ability to write analytically and argumentatively by composing



applications of critical methods to literary works.

3. Identify literary devices and define them.

4. Use specific details to support a claim about a text.

5. Express their interpretation of a work in clear expository prose.

6. Be exposed to and be able to utilize various literary analysis approaches toward literature.

7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).

8. Relate one literary work to another, and also to the culture from which it emerged.

9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

## **LIT 294 - Envirolit**

Envirolit (Literature of the Environment) is a literary and visual journey into writings and viewpoints about nature, in addition to other explorations that trace the environmental movement. In this Writing Emphasis course, students will respond to essays, short stories, poems, movies, and books as the usual method of learning, but guest speakers, field trips, research, and individual Service Learning options will also provide educational opportunities.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

### **Hours**

3 Class hours;

## **LIT 295 - Literature and Film**

Introduces students to literary and cultural inquiry through exploration of the compositional and aesthetic relationships between fiction and film. Analysis of various literary texts (predominantly, novels) as well as films based on those texts will lead to significant discoveries concerning fundamental differences between the two genre and perhaps, most importantly - the transactional dynamics that exist between audience and image, reader and word.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.

2. Have improved their ability to write analytically and argumentatively by composing applications of

critical methods to literary works.

3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

## **LIT 297 - World Literature I**

A multi-genre course surveying world literature from approximately 1300 B.C. to the 1500 A.D.. The course has a strong humanities component and is designed to engage students in the lives and histories of the people and cultures who created and enjoyed these poems, stories, and plays.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary search, using print as well as electronic sources.

## **LIT 298 - World Literature II**

A multi-genre course surveying world literature from approximately 1600 A.D. into the 20th century. The course has a strong humanities component and is designed to engage students in the lives and histories of the people who wrote these poems, stories, and plays as well as those who read, witnessed, and enjoyed them.

**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I.

Credits: 3

**Hours**

3 Class hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have improved their ability at oral discourse by discussing and explaining their interpretive responses.
2. Have improved their ability to write analytically and argumentatively by composing applications of critical methods to literary works.
3. Identify literary devices and define them.
4. Use specific details to support a claim about a text.
5. Express their interpretation of a work in clear expository prose.
6. Utilize various literary analysis approaches toward literature.
7. Express multiple viewpoints about the life questions dealt with in literature (even if they disagree with those viewpoints).
8. Relate one literary work to another, and also to the culture from which it emerged.
9. Learn and demonstrate competence in basic principles and techniques of literary research, using print as well as electronic sources.

**LRS 101 - Study Management**

General principles of academic success, relationship of outside work and study, scheduling and organizing time, study and concentration, learning style evaluation. Students will construct a working study schedule.

Credits: (1/2)

**Hours**

3 Class Hours for 3 Weeks

**LRS 102 - Memory and Exams**

Theories of memory. Methods of review, strategies for taking essay and objective examinations dealing with test anxiety.

Credits: (1/2)

**Hours**

3 Class Hours for 3 Weeks

**LRS 103 - Textbook Mastery**

Use of college textbooks as study aids, principles of effective text reading, text study systems. Extensive application of these principles in the student's own textbook.

Credits: (1/2)

**Hours**

3 Class Hours for 3 Weeks

## **LRS 104 - Listening and Notetaking**

Examination of organizational patterns as they exist in oral communication. Exploration of systems on notetaking, and application of systems to student's own lectures and notes.

Credits: (1/2)

**Hours**

3 Class Hours for 3 Weeks

## **LRS 105 - Learning Skills**

Principles and techniques of academic success. Focus will be on classroom skills such as text reading and notetaking skills. Time management and exam taking strategies also will be covered. All techniques will be directly applied in the students' content courses.

**Prerequisite- Corequisite**

Corequisite: Students should be enrolled in a credit-bearing course which includes a textbook.

Credits: 2

**Hours**

3 Class Hours for 12 Weeks; course starts at the beginning of the third week of the semester;

**Note**

Note: Students may not receive credit toward graduation requirements from LRS 101/102/103/104/106 if they use LRS 105.

## **LRS 106 - College Success**

The goal of this course is to help students to become more aware, active, and capable learners. Emphasis will be on a core of specific study strategies based on learning theory, such as reading academic texts, making notes from texts and lectures, managing study time effectively, and taking exams successfully. Students will apply these strategies to their own courses.

Credits: 3

**Note**

Note: Students may not receive credit for LRS 101/102/103/104/105 if they receive credit for LRS 106 to fulfill graduation requirements.



## **LRS 110 - The Research Paper**

Shaping the Paper: Development of a topic, location of appropriate resources and digestion of the material. Writing the Paper: Outlining effective composition and proper form. A hands-on approach in which students actually research a topic and compose a term paper.

Credits: 1

### **Hours**

2 Class Hours for 8 Weeks

### **Note**

Course starts at the beginning of the fifth week of semester.

## **LRS 120 - The Art of Thinking**

Logic as an art. Logical principles taught in imaginative ways to achieve understanding. Emphasis on the practice of reasoning. Fundamental logic rules are taught as tools to enable the students to gain experience and confidence in thinking about issues that are important to them.

Credits: 1

### **Hours**

2 Class Hours for 8 Weeks;

### **Note**

Course starts at the beginning of the fourth week of the semester.

## **LRS 130 - Introduction to Microcomputers and Word Processing**

Introduction to all aspects of the microcomputer through lecture and practice. Students will master at least one word processing package, as well as gain familiarity with both a graphics and a spreadsheet package. This course is intended for students who have no prior knowledge of micro-computers.

Credits: 2

### **Hours**

3 Class Hours for 10 Weeks;

### **Note**

Course starts at the beginning of the fifth week of the semester.

## **LRS 150 - Advanced Learning Skills**

An intensive course in the examination and exploration of the learning process. Students will synthesize their knowledge, understanding, and appreciation of the learning process to plan, implement and evaluate their own peer tutoring. Emphasis on workshopping and collaborative

learning. Intended for tutors, Supplemental Instruction Leaders, and students considering a career in education.

**Prerequisite- Corequisite**

Prerequisite: Department Chair Interview and Approval.

Credits: 3

**Hours**

3 Class Hours;

**MAT 090 - Foundations for College Mathematics I**

Arithmetic of whole numbers, fractions, decimals and signed numbers. Percent, ratio and proportion. Measurement, metric units and basic geometric concepts. Language of algebra and solving simple equations. Descriptive statistics. Estimation, problem solving, critical thinking, writing and communication skills are developed in group activities. This course is designed to provide the skills necessary for students to successfully complete MAT 092, MAT 113.

Credits: 0

**Hours**

4 Class Hours

**Course Profile**

Learning Outcomes of the Course:

MAT 090 Objectives

After taking MAT 090 the student should be able to:

Perform skills in four categories: Arithmetic, Basic Algebra/Geometry, Problem Solving/Estimation and on a scientific calculator.

Note: Throughout the course the students are expected to solve applied problems related to the topics of the course.

**Arithmetic**

1. Add, subtract, multiply, and divide whole numbers, fractions, decimals both with and without the use of a calculator.
2. Write fractions in equivalent forms.
3. Convert between decimals, fractions and percents (including rounding).
4. Define whole number exponents and evaluate numerical expressions with whole numbers exponents.
5. Find the prime factorization of a number.
6. Recognize, use and understand the commutative, the associative, and the distributive laws of real numbers.
7. Know and use order of operations effectively.
8. Find the mean, median, mode, and range for a data set and understand their meaning.

**Basic Algebra/Geometry**

9. Identify polygons, classify angles, and measure angles using a protractor.

10. Use a ruler to measure lengths in both English and Metric units.
11. Find perimeter, area and volume of various geometric objects.
12. Use and understand the Pythagorean Theorem, similarity and congruence.
13. Combine like terms for basic linear algebraic expressions.
14. Solve and check basic linear equations.

#### Problem Solving/Estimation

15. Formulate and solve applications with whole numbers and integers.
16. Solve ratio and proportion application problems.
17. Solve percent application problems.
18. Formulate and solve problems involving linear equations.
19. Solve application problems involving both English and Metric measurement conversions.
20. Make estimates by developing a sense of relative number size.
21. Construct and interpret graphs and charts with appropriate scales.

#### Calculator

22. Use all functions fraction key.
23. Use all arithmetic functions.
24. Use square, square root, and power functions.
25. Use parentheses keys.
26. Use storage and recall functions.
27. Use Pi key.

#### Textbook Information

## MAT 092 - Foundations for College Mathematics II

Signed numbers, exponents and equations in one variable. Evaluating formulas and algebraic expressions. Factoring and the distributive property. Graphing, solving linear equations and inequalities in two variables. Estimation, problem solving, critical thinking, writing, and communication skills are developed in group activities.

#### Prerequisite- Corequisite

Prerequisite: MAT 090 Foundations for College Mathematics I or equivalent.

Credits: 0

#### Hours

4 Class hours

#### Course Profile

Learning Outcomes of the Course:

Designed to give the student proficiency in elementary mathematics and provide a firm foundation for credit courses.

After taking MAT 092 the student should be able to:

Perform skills in three categories: Algebra, Graphing and Problem Solving/Estimation.

Note: Throughout the course the students are expected to simplify and evaluate expressions. They are also expected to solve applied problems related to the topics of the course and use estimation to verify the reasonableness of their results.

### Algebra

1. Know and use order of operations effectively.
2. Solve linear equations.
3. Solve basic literal equations.
4. Solve algebraic proportions.
5. Perform operations with signed numbers.
6. Use exponent rules with integer exponents.
7. Solve linear systems by elimination.
8. Solve linear systems by substitution.
9. Add and subtract polynomials.
10. Multiply polynomials.
11. Divide polynomials by monomials.
12. Perform arithmetic operations with square roots. (not algebraic expressions)
13. Simplify algebraic monomials inside a square root.
14. Add and subtract algebraic fractions with common denominators.
15. Multiply and divide algebraic fractions.
16. Factor a monomial from a polynomial.
17. Factor second degree polynomials.
18. Simplify rational expressions by factoring.
19. Solve quadratic equations by factoring and the square root property.
20. Solve quadratic equations by using the quadratic formula.
21. Solve linear inequalities.

### Graphing

22. Know the rectangular coordinate system.
23. Find the slope of a line.
24. Find the slope-intercept equation of a line.
25. Find equations of vertical and horizontal lines.
26. Graph linear equations in two variables.
27. Solve linear systems by graphing.
28. Graph parabolas by plotting points and by using the intercepts.
29. Find the axis of symmetry of a parabola.
30. Graph solutions of linear inequalities.

### Problem Solving/Estimation

31. Solve problems using scientific notation.
32. Solve application problems using linear systems of equations.
33. Write mathematical notation that is consistently correct.
34. Describe in writing problem solving methods.
35. Work as a member of a team to solve problems.
36. Evaluate complicated formulas using a scientific calculator including complex fractions.



37. Solve applied problems.
38. Use estimation in problem solving.

## **MAT 093 - Integrated Arithmetic and Basic Algebra**

Arithmetic of real numbers. Percent, ratio and proportion. Basic geometric concepts. Language of algebra and solving equations. Evaluating formulas and algebraic expressions. Factoring and the distributive property. Quadratic equations. Perimeter, volume, and area applications. Graphing, solving linear equations and inequalities in two variables. Estimation, problem solving, critical thinking, writing, and communication skills are developed in group activities.

This course is designed to provide the skills necessary for students to successfully complete MAT 096, MAT 113, MAT 115, MAT 117, MAT 119.

### **Learning Outcomes of the Course:**

After taking MAT 093 the student should be able to:

Perform skills in four categories: Arithmetic, Algebra/Basic Geometry, Graphing and Problem Solving/Estimation.

Note: Throughout the course the students are expected to solve applied problems related to the topics of the course.

### **Arithmetic**

1. Perform basic operations on real numbers with and without the use of a calculator.
2. Write fractions in equivalent forms.
3. Convert between decimals, fractions and percents (including rounding).
4. Define whole number exponents and evaluate numerical expressions with whole numbers exponents.
5. Find the prime factorization of a number.
6. Recognize, use and understand the commutative, the associative, and the distributive laws of real numbers.
7. Know and use order of operations effectively.

### **Algebra/Basic Geometry**

8. Find perimeter, area and volume of various geometric objects.
9. Use and understand the Pythagorean Theorem, similarity and congruence.
10. Combine like terms for basic linear algebraic expressions.
11. Solve linear equations.
12. Solve literal equations.
13. Solve algebraic proportions.
14. Perform operations with signed numbers.
15. Use exponent rules with integer exponents.
16. Solve linear systems with 2 equations and 2 unknowns by substitution and elimination.
17. Add, subtract and multiply polynomials.
18. Divide polynomials by monomials.
19. Perform arithmetic operations with square roots.

20. Simplify algebraic monomials inside a square root.
21. Add and subtract algebraic fractions with common denominators.
22. Multiply and divide algebraic fractions.
23. Factor a monomial from a polynomial.
24. Factor second degree polynomials.
25. Simplify rational expressions by factoring.
26. Solve quadratic equations by factoring and by using the quadratic formula.
27. Solve linear inequalities.

#### Graphing

28. Know the rectangular coordinate system.
29. Find the slope of a line.
30. Find the slope-intercept equation of a line.
31. Find equations of vertical and horizontal lines.
32. Graph linear equations in two variables.
33. Solve linear systems by graphing.
34. Graph parabolas by plotting points and by using the intercepts.
35. Find the axis of symmetry of a parabola.
36. Graph solutions of linear inequalities.

#### Problem Solving/Estimation

37. Solve applied problems.
38. Solve percent application problems.
39. Solve percent application problems.
40. Formulate and solve problems involving linear equations.
41. Use estimation in problem solving. Make estimates by developing a sense of relative number size.
42. Construct and interpret graphs and charts with appropriate scales.
43. Solve application problems involving unit conversions.
44. Solve application problems using linear systems of equations with 2 equations and 2 unknowns.
45. Write mathematical notation that is consistently correct.
46. Describe problem solving methods in writing.
47. Work as a member of a team to solve problems.
48. Evaluate complicated formulas, including complex fractions, using a scientific calculator.
49. Use the formulas for area of standard quadrilaterals and triangles.
50. Use the formulas for area and circumference of a circle.
51. Use formulas for volume of a rectangular solid, a cylinder, and a sphere.

#### Calculator

52. Use, +, -, \*,  $\div$ , square, square root, and power functions.
53. Use the fraction key.
54. Use the percent key.
55. Use parentheses keys.
56. Use storage and recall functions.
57. Use Pi Key.

Credits: 0

#### Hours

4 Class Hours

## **MAT 095 - Metric Conversion and Dosages**

Common fractions and decimal fractions. Metric computations. Apothecary and household systems. Conversions of metric, apothecaries and household units. Calculations of dosage. Designed to meet the mathematics proficiency required for clinical nursing course.

### **Prerequisite- Corequisite**

Prerequisite: MAT 092 Foundations for College Mathematics II or equivalent and Placement by the Nursing Department.

Credits: 0

### **Hours**

1 Class Hour

### **Course Profile**

Learning Outcomes of the Course:

After taking MAT 095 the student should be able to:

1. Add/Subtract/Multiply/Divide whole numbers, fractions and decimals.
2. Round decimals to required place value.
3. Simplify complex fractions.
4. Apply factor/label method to dosage problems.
5. Convert in metric system.
6. Convert in apothecary system using Roman numeral to 50.
7. Convert in household system.
8. Convert among all three systems.
9. Apply all symbols and abbreviations used in all three systems.
10. Apply the "required" equivalents.
11. Interpret dosage problems, read labels and accurately perform all clinical calculations.
12. Calculate oral medications.
13. Calculate Parenteral medications.
14. Do all the calculations by hand as well as using a calculator.

## **MAT 096 - Elementary Algebra and Trigonometry**

Polynomials; factoring; functions; rational expressions; linear, quadratic and rational equations; graphs of basic functions; row operations and linear systems; topics in geometry; general angles in degrees and radians; right triangle trigonometry.

### **Prerequisite- Corequisite**

Prerequisite: MAT 092 Foundations for College Mathematics I or equivalent.

Credits: 0

### **Hours**

4 Class Hours;

### **Course Profile**

Learning Outcomes of the Course:

After taking MAT 096 students should be able to:

Perform skills in four categories: Algebra, Geometry/Trigonometry, Graphing and Problem Solving/Estimation.

Note: Throughout the course the students are expected to solve applied problems related to the topics of the course.

#### Algebra

1. Perform operations on polynomials.
2. Simplify rational expressions and perform operations on rational expressions including complex fractions.
3. Solve elementary rational equations.
4. Evaluate square roots.
5. Solve and evaluate literal equations.
6. Define and evaluate functions using function notation.
7. After a brief review, factor a monomial from a polynomial, factor trinomials, and factor special cases (difference of squares).
8. Factor expressions in form, expressions that are sum and difference of cubes, and expressions that can be factored by grouping.
9. After a brief review, solve quadratic equations by factoring and by using the quadratic formula.
10. Completing the square to graph conic sections.
11. Identify parallel and perpendicular lines from their equations.
12. Solve systems of linear equations by row operations.

#### Geometry/Trigonometry

13. Classify angles and triangles using appropriate terminology.
14. Relate the sides and angles of similar triangles.
15. Convert between radians and degrees.
16. Find reference angles for angles measured in degrees.
17. Evaluate the six trigonometric functions of general angles measured in degrees.
18. Understand and use right triangle trigonometry.

#### Graphing

19. Identify the following basic relations:
  - a.  $ax + by = c$
  - b.  $y = ax^2 + bx + c$
  - c.  $(x - h)^2 + (y - k)^2 = r^2$
20. Find equations of lines using point-slope form, slope-intercept form and general form.
21. Graph a parabola by finding the vertex, intercepts, and additional points.
22. Graph a circle given its equation in standard or general form.

#### Problem Solving/Estimation

23. Solve applications problems involving 2 by 2 and 3 by 3 systems of linear equations.
24. Solve application problems with linear and quadratic equations.
25. Solve applications using right triangle trigonometry.
26. Solve application problems with rational equations.

#### Calculator



27. Evaluate trigonometric and inverse trigonometric values.
28. Find equivalent angle measures in degrees and radians.

## **MAT 097 - Intravenous Medications and Pediatric Dosage**

Calculations of intravenous medications, calculations involving drop factors, flow rate and infusion time. Calculations of pediatric dosage in divided dosages and dosages based on body weight. Calculation of minimum fluid requirements. Designed to meet the mathematics proficiency required for second year nursing program.

### **Prerequisite- Corequisite**

Prerequisite: MAT 092 Foundations for College Mathematics II or equivalent and Placement by Nursing department.

Credits: 0

### **Hours**

1 Class Hour;

### **Course Profile**

Learning Outcomes of the Course:

After taking MAT 097 the student should be able to:

1. Calculate IV medications and solutions.
2. Perform calculations involving drop factors.
3. Perform calculations involving flow rate and infusion time.
4. Accurately calculate a pediatric dosage according to body weight (in kg.)
5. Accurately calculate pediatric dosage in divided dosages.
6. Interpret and calculate the minimum fluid requirements for pediatric clients.
7. Do all the arithmetic calculations by hand as well as using a calculator.

## **MAT 100 - Math Success Seminar**

This course provides a series of interactive experiences that will help students identify the factors blocking their success, and understand and take control of cognitive, affective and behavioral dimensions of the learning process. Learning styles, note taking and study skills specific to mathematics classes are emphasized.

### **Prerequisite- Corequisite**

Co-requisite: MAT 090 Foundations for College Mathematics I, MAT 092 Foundations for College Mathematics II or MAT 096 Elementary Algebra and Trigonometry.

Credits: 1

### **Hours**

1 Class Hour;

### **Course Profile**

Learning Outcomes of the Course:

Course Objective, Content & Learning Goals:

1. To understand the three components of the learning process.
2. To assimilate math information with a feeling of confidence and control.
3. To process math information and retain it.
4. To organize math information so that it can be recalled in any format and be applied.
5. To practice strategies for removing blocks to success.

#### Behavioral Objectives

At the end of this course the student will be able to:

1. Demonstrate the role of an active learner both in the classroom and as a member of a small study group.
2. Use the SQ3R method to read a math textbook.
3. Organize and prioritize math information using note cards and a two-column notebook.
4. Use appropriate test taking skills to prepare for and take each test as well as analyze each test after it is graded.
5. Develop a good time management plan that includes class.

#### Cognitive Outcomes:

At the end of this course, students will be able to:

1. Discuss the relationships among basic structure of the brain cortex, learning and memory.
2. Explain, using concepts of brain theory, how study behaviors impact learning.
3. Recognize their individual learning styles and apply learning strategies that target their strengths.
4. Categorize questions about math topics according to a hierarchy of levels of thinking.
5. Formulate questions relevant to math topics at any given level of the thinking process.

#### Affective Outcomes:

At the end of this course student will be able to:

1. Recognize and articulate their beliefs about themselves as math learners and the origins of those beliefs.
2. Use positive self-talk to improve their self-image as math learners.
3. Identify situations that have led them to avoid math.
4. Acknowledge areas of deficiency in their math background.
5. Formulate a workable plan that allows them to take control of their math learning.

## **MAT 113 - Mathematical Explorations I**

This course is an interdisciplinary approach to topics in mathematics using computer technology. Topics include: Statistical Analysis of Data, Financial Management, Network Analysis, Project Design and Voting Theory. This course is designed for Liberal Arts and Business Students, not for Science majors.

#### **Prerequisite- Corequisite**

Prerequisite: MAT 090 Foundations for College Mathematics I or equivalent.

Credits: 3

**Hours**

3 Class Hours;

### **Course Profile**

Learning Outcomes of the Course:

At the end of this course the student should be able to:

1. Use e-mail.
2. Use Excel.
3. Use the Internet.
4. Use PowerPoint.
5. See where math can be used to solve problems in everyday life and in his/her discipline.
6. Find the mean, mode, median and range of a data set.
7. Construct boxplots, histograms and scatterplots.
8. Find the standard deviation of a set of numbers.
9. Identify distributions that are normal and those that are not.
10. Explain the difference between a parameter and a statistic.
11. Explain the difference between the majority and the plurality voting methods.
12. Identify Hamiltonian and Euler Circuits.
13. Solve the Traveling Salesman-like Problems.
14. Schedule a project.
15. Calculate compound interest.
16. Investigate annuities.
17. Calculate loans payments and credit card interest.
18. Investigate mortgage amortization tables.
19. Investigate risk, return, and liquidity of investments.

## **MAT 115 - Mathematics for General Education I**

This course is the first course of a two-course sequence designed to satisfy the SUNY General Education Requirements at the baccalaureate level. It provides an interdisciplinary approach to quantitative literacy, critical thinking and the relevance of mathematics in society. Prescribed topics include analysis of propositions, assumptions and inductive and deductive arguments, the basic principles of counting, the laws of probability and introductory descriptive and inferential statistics. Computer technology will be used throughout the course to explore these concepts and to prepare a presentation on a related topic in the student's field of study. The SUNY GER in mathematics is satisfied only upon completion of both MAT 115 and MAT 116.

### **Prerequisite- Corequisite**

Prerequisite: MAT 092 Foundations for College Mathematics II or equivalent.

Credits: 3

### **Hours**

3 Class Hours;

### **Course Profile**

Learning Outcomes of the Course:

At the end of the course the student should be able to:

1. Use e-mail.
2. Use electronic spreadsheet.
3. Use the Internet.

4. Use electronic presentation software.
5. Give examples of how math can be used to solve problems in everyday life and in his/her discipline.
6. Apply general principles and guidelines to critical thinking in everyday life.
7. Distinguish between and analyze inductive and deductive arguments.
8. Use symbols of logic to work with propositions and truth values.
9. Determine the validity of an argument.
10. Use set operations and Venn diagrams to evaluate categorical propositions.
11. Apply principles of counting including permutations and combinations.
12. Distinguish between theoretical, empirical, and subjective probabilities.
13. Determine theoretical probabilities.
14. Specify probability distribution.
15. Calculate probabilities for independent events, dependent events, non-overlapping events, overlapping events.
16. Calculate conditional probability.
17. Use trees for counting and probability applications.
18. Calculate and interpret expected values.
19. Explain the difference between a population and a sample, a parameter and a statistic.
20. Find the mean, mode, median and range of a data set.
21. Construct boxplots, histograms and scatterplots.
22. Find the standard deviation of a set of numbers.
23. Describe a normal distribution and conditions under which it can be expected.
24. Understand and apply the empirical rule for the normal distribution.
25. Use a standard score table for normal distribution.
26. Understand and apply the law of averages.
27. Understand the concept of statistical significance.
28. Understand how a margin of error arises from sampling distribution.
29. Use a linear regression analysis and test the correlation coefficient.
30. Calculate a confidence interval for the mean of a population.

## **MAT 116 - Mathematics for General Education II**

This course is the second course of a two-course sequence designed to satisfy the SUNY General Education Requirements at the baccalaureate level. It provides an interdisciplinary approach to quantitative literacy, critical thinking and the relevance of mathematics in society. Prescribed topics include the mathematics of saving and borrowing money, functions (especially linear, quadratic, logarithmic, exponential and/or sine) as models for interpreting data. Symmetry and fractals, voting or graph theory will also be included. Computer technology will be used throughout the course to explore these concepts and to prepare a project demonstrating an understanding of mathematics as it is applied in another discipline. The SUNY GER in mathematics is satisfied only upon completion of both MAT 115 and MAT 116.

### **Prerequisite- Corequisite**

Prerequisite: MAT 115 Mathematics for General Education I.

Credits: 3

### **Hours**

3 Class Hours;

### **Course Profile**

Learning Outcomes of the Course:



After completing the course the student will be able to:

1. Use e-mail.
2. Use electronic spreadsheets.
3. Use the Internet.
4. Use electronic presentation software.
5. Give examples of how math can be used to solve problems in everyday life and in his/her discipline.
6. Investigate risk, return, and liquidity of investments.
7. Calculate simple and compound interest.
8. Use spreadsheet templates and web-based calculators to evaluate whether an annuity plan or other types of investments will meet the need of the investor.
9. Calculate loans payments and credit card finance charges.
10. Investigate mortgage amortization tables.
11. Describe a function in words and use function notation.
12. Describe the domain and range of a function.
13. Identify independent and dependent variables.
14. Create and use graphs of functions.
15. Identify a graph as linear or non-linear.
16. Create and use linear and non-linear models to analyze real data.
17. Discuss and apply topics in one of three applications of mathematics: visual arts and music, voting theory, or networks and scheduling.

## **MAT 117 - Elementary Finite Math w/Algebra**

Sets, probability, matrix algebra, graphing, inequalities, linear programming, permutations and combinations, linear models of equilibrium, systems of linear equations, solving equations and inequalities.

### **Prerequisite- Corequisite**

Prerequisite: MAT 092 Foundations for College Mathematics II or equivalent.

Credits: 4

### **Hours**

4 Class Hours;

### **Course Profile**

Learning Outcomes of the Course:

At the end of this course the student will be able to:

1. Operate with signed numbers.
2. Solve equations and inequalities.
3. Write equations of lines.
4. Graph lines and linear inequalities.
5. Solve linear models of equilibrium.
6. Add, subtract and multiply matrices.
7. Determine if a matrix has an inverse, and find it if it does.
8. Solve systems of linear equations using matrix methods.
9. Solve systems of linear inequalities (linear programming).
10. Use set language to express probability problems and their solutions.
11. Compute combinations, permutations and use Pascal's Triangle.

12. Expand a binomial using the Binomial Formula.
13. Calculate conditional probabilities.
14. Calculate Binomial probabilities.
15. Calculate Normal probabilities.

## **MAT 119 - Mathematics for Elementary Education I**

An exploration of order of operations, fractions, equations of a single variable, graphing lines; visual display of data using charts and graphs, descriptive statistics, data analysis, hypothesis testing; area and perimeter of plane figures, volume and surface area of solids. Students are expected to explain the material as though to a target audience. Course uses a project-based instruction methodology. Intended only for elementary education majors, this course is the first course in a two course sequence (with MAT 120) for completion of SUNY General Education Math requirement.

### **Prerequisite- Corequisite**

Prerequisite: MAT 092 Foundations for College Math II

Credits: 3

### **Hours**

3 Class Hours;

### **Course Profile**

Learning Outcomes of the Course:

After completing the course the student will be able to:

1. Add, subtract, multiply, divide rational numbers, and explain why the basic arithmetic operations of fractions work.
2. Evaluate arithmetic expressions according to the algebraic hierarchy.
3. Adding, subtracting and multiplying polynomials.
4. Solve equations of a single variable.
5. Solve literal equations of a single variable.
6. Define and graph a linear function of a single variable.
7. Identify, interpret, and discuss line charts, bar charts, line graphs, and pie charts.
8. Construct line charts, line graphs, and bar charts.
9. Relate a shape to its place in the geometric hierarchy.
10. Identify various quadrilaterals and triangles.
11. Use formulas to calculate the perimeter and area of various polygons.
12. Use formulas to calculate the circumference and area of a circle.
13. Use the Pythagorean Theorem.
14. Calculate the perimeter of simple and compound planar regions.
15. Use formulas to calculate the surface area and volume of a cone, a cylinder, a prism and a sphere.
16. Calculate the volume and surface area of simple and compound solids.
17. Solve application problems involving area, perimeter, surface area and volume.
18. Explain the difference between central tendency and dispersion.
19. Calculate the mean, weighted mean, median, and mode and recognize the appropriate use of same to help describe a data set.
20. Calculate percentiles and relate them to a set of data.
21. Calculate the range and standard deviation for a set of data and recognize these as measures of dispersion.

22. Explain what a z-score measures and calculate the z-score for a given score.
23. Test an hypothesis about the mean of a population.
24. Complete and present projects.
25. Participate in cooperative learning activities.

## **MAT 120 - Mathematics for Elementary Education II**

Simple probability, odds, expected value; patterns, symmetry, tilings, sequences, and pattern block manipulation; functions of one or more variables with graphs and applications; right triangle trigonometry; sine, logarithmic, exponential, quadratic and logistic curves. Students are expected to explain the material as though to a target audience. Course uses a project-based instruction methodology. Intended only for elementary education majors, this course is the second course in a two course sequence (with MAT 119) for completion of SUNY General Education Math requirement. (Writing Emphasis Course)

### **Prerequisite- Corequisite**

Prerequisite: MAT 119 Mathematics for Elementary Education I and ENG 110 College Writing I

Credits: 3

### **Hours**

3 Class Hours;

### **Course Profile**

Learning Outcomes of the Course:

After completing the course the student should be able to:

1. Identify the sample space and event spaces in probability experiments.
2. Draw tree diagrams and tables to solve probability problems.
3. Calculate simple theoretical and experimental probabilities.
4. Calculate compound theoretical and experimental probabilities using trees and multiplication principle.
5. Determine odds.
6. Calculate expected value.
7. Write recursion formulas and explicit formulas for various sequences.
8. Recognize and write recursive and explicit formulas for arithmetic, geometric, Fibonacci and, optionally, polygonal number sequences.
9. Hexiamonds, Polyominoes, Pentominoes, and Tetrahexes.
10. Tile a plane using various combinations of regular polygons.
11. Identify various types of plane tilings.
12. Identify symmetry in a pattern.
13. Identify and create the various types of border patterns.
14. Build designs with pattern blocks.
15. Evaluate functions of one or several variables.
16. Review solving equations of a single variable.
17. Recognize and appropriately use degree and radian measure.
18. Solve applications using right triangle trigonometry.
19. Recognize the graphs of the sine, logarithmic, exponential, quadratic and logistic curves.
20. Calculate angles using inverse trigonometric functions.
21. Algebraically solve equations in a single variable, including sine, logarithmic, exponential and logistic curves.

22. Recognize applications of sine, logarithmic, exponential, quadratic, and logistic curves.
23. Complete writing assignments.
24. Conduct research using professional journals and the Internet.
25. Complete and present projects.
26. Participate in cooperative learning activities.

## **MAT 124 - Statistics I**

Sampling theory, organization and presentation of data, measures of central tendency, variance, standard deviation, exploratory data analysis, correlation and regression, normal distributions, Student's t-distributions, binomial distributions, statistical inference, hypothesis testing, confidence intervals, use of a statistical software package.

### **Prerequisite- Corequisite**

Prerequisite: MAT 096 Elementary Algebra and Trigonometry or equivalent.

Credits: 3

### **Hours**

3 Class Hours;

### **Course Profile**

Learning Outcomes:

After taking this course the student should be able to:

Descriptive Statistics:

1. Define a population, a sample, and random sampling.
2. Find and work with a published data set.
3. Collect data on a random variable.
4. Group data, make frequency tables and graphically display information.
5. Compute the mean, median, mode, standard deviation, and variance for raw data.
6. Find the coefficient of correlation for a set of paired data.
7. Write the equation of the least squares regression line.

Statistical Inference:

1. Interpret the slope of the equation of least square regression line, and use equation to make and interpret predictions.
2. Find probabilities using definitions, some rules of probability, and normal, t, and binomial distributions.
3. Find areas under the standard normal curve.
4. Apply the Central Limit Theorem.
5. Analyze data on a random variable.
6. Set up confidence intervals for means and proportions for large samples.
7. Set up confidence intervals for means for small samples.
8. Perform large sample hypothesis testing on means and differences of means.
9. Perform large sample hypothesis testing on proportions and differences of proportions.

Statistical Software Package:

1. Create bar charts, histograms, stem-and-leaf displays, and boxplots.
2. Produce descriptive statistics including mean, median, standard deviation, minimum, maximum, and quartiles for a data set.



3. Create scatterplots both with and without the graph of the least squares regression line.
4. Produce the value of the correlation coefficient and the equation of the least squares regression line.
5. Produce confidence intervals.
6. Conduct tests of hypotheses on means, proportions, difference of means, and differences of proportions.

## **MAT 130 - Applied Algebra and Trigonometry**

Designed for students in the Engineering Technologies only, the course covers algebra and trigonometry emphasizing computational skills and graphing using application problems from technology fields. Topics include: function definition, graphs, exponents, logarithms, trigonometric identities, complex numbers and vectors.

### **Prerequisite- Corequisite**

Prerequisite: MAT 096 Elementary Algebra and Trigonometry or equivalent.

Credits: 4

### **Hours**

4 Class Hours;

### **Course Profile**

Learning Outcomes:

After completion of this course the student should be able to:

1. Solve literal equations.
2. Solve polynomial equations.
3. Solve trigonometric equations.
4. Solve logarithmic and exponential equations.
5. Perform operations on algebraic and trigonometric expressions.
6. Define what a functions is, and graph it.
7. Perform operations defined on functions.
8. Recognize and graph linear functions, polynomials, rational functions, exponential functions and logarithmic functions.
9. Use the basic properties of logarithmic and exponential functions.
10. Recognize and use basic trigonometric identities.
11. Solve application problems using the Law of Sines and/or Law of Cosines.
12. Solve application problems using exponential functions in areas such as interest, population growth, disease, radioactive decay.
13. Solve application problems using logarithmic functions in areas as ph, Richter Scales, and decibel scales.
14. Define and recognize complex numbers.
15. Convert between rectangular and trigonometric forms for complex numbers.
16. Perform basic operations on complex numbers.
17. Represent vectors in polar and rectangular form.
18. Resolve a vector into its rectangular components.
19. Use vectors to solve application problems.

Calculator Objectives: The student should be able to:

1. Find roots of polynomials using the graphing calculator. This involves three methods: graphing, factoring and using the Numeric Solver application.
2. Solve equations using the graphing calculator. This involves graphing and using the Numerical Solver application.
3. Use Exact and Approximate output modes.
4. Understand the Graph application menus.
5. Setup and read tables to look at limiting values of functions.
6. Find minima and maxima.
7. Graph piece-wise functions.
8. Get an appropriate window and accurately sketch the graph of a relation or function.
9. Establish a trigonometric identity using the graphing calculator.

## **MAT 136 - College Algebra and Trigonometry I**

Rational exponents; radicals; polynomial long division; rational expressions; solving quadratic equations and inequalities; polynomial functions; absolute value equations and inequalities; complex numbers; operations of functions; inverse functions; properties of exponential and logarithmic functions; trigonometric functions; reference angles; radian measure; graphs of sine, cosine, and tangent; basic trigonometric identities.

### **Prerequisite- Corequisite**

Prerequisite: MAT 096 Elementary Algebra and Trigonometry or equivalent.

Credits: 4

### **Hours**

4 Class Hours;

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

Perform skills in three categories: Algebra, Geometry, Trigonometry; Non Calculator Graphing; and Graphing Calculator.

Note: Throughout the course the students are expected to solve applied problems related to the topics of the course.

### **Algebra, Geometry, Trigonometry:**

1. Perform arithmetic operations and simplification of rational expressions including complex fractions.
2. Solve absolute value linear equations and inequalities using analytic methods.
3. Perform operations and simplify expressions involving radicals and rational exponents.
4. Perform operations and simplify expressions involving complex numbers.
5. Rationalize denominators and numerators.
6. Understand the definition of a function of  $x$  and find the domain and range of a function.
7. Use function notation.
8. Review linear functions and their applications.
9. Perform operations on functions including composition.
10. Find an inverse function algebraically.
11. Use properties of exponential and logarithmic functions.
12. Use the change of base formula.

13. Use interval notation.
14. Solve compound inequalities.
15. Perform polynomial long division.
16. Solve quadratic equations and inequalities and applications thereof.
17. Apply the Remainder Theorem and Factor Theorem to higher degree polynomials.
18. State the Fundamental Theorem of Algebra and find all complex zeros of a polynomial function.
19. Construct an expression for a polynomial given its roots.
20. Use radians to measure angles.
21. Find reference angles for angles measured in degrees and radians.
22. Find the trigonometric functions for a general angle.
23. Use reciprocal, Pythagorean, cofunction, quotient and odd/even identities.
24. Use the distance and midpoint formulas.
25. Find the arc length and area for a sector of a circle.
26. Review trigonometric functions of acute angles and applications of right triangles.

### **Non Calculating Graphing:**

27. Identify and graph the following families of relations:
  - a.  $ax + by = c$
  - b.  $y = ax^2 + bx + c$
  - c.  $y = x^n$
  - d.  $y = |x|$
  - e.  $y = \frac{1}{x}$
  - f.  $y = a^x$
  - g.  $y = a \sin bx$
  - h.  $y = a \cos bx$
  - i.  $y = a \tan bx$
28. Graph functions and relations by using various graphing techniques: symmetry, reflection, translation and contraction.
29. Sketch a comprehensive graph of a polynomial function including end behavior, extrema and real zeros.
30. Relate the graphs of  $y = \sin x$  and  $y = \cos x$  to the unit circle.
31. Graph inverse functions.
32. Graph piece-wise functions.

### **Graphing Calculator:**

33. Graph piece-wise functions.
34. Plot points and fit a line to the data using calculator regression.
35. Solve functional and relational inequalities by graphing.
36. Find roots of polynomials using the zero command.
37. Solve equations using the zero and the intersection methods.
38. Solve an equation using the computer algebra system.
39. Use the Exact and Approximate output mode.
40. Setup and read tables.
41. Find minima and maxima using the Math options for the graph.
42. Get an appropriate window and accurately sketch the graph of a relation or function.
43. Establish a trigonometric identity by using graphing and using the computer algebra system.
44. Use the trigonometric and inverse trigonometric commands.
45. Use the exponential and logarithmic commands.

## MAT 146 - Applied Business Calculus

Review of analytic geometry of lines and parabolas; functions, and their graphs; limits and continuity; differentiation rules and applications; integration techniques and applications; exponential and logarithmic functions and applications. Recommended for Social Science, Health Science and Business students. Not for Mathematics majors or Science majors in the A.S. Degree program.

### Prerequisite- Corequisite

Prerequisite: MAT 136 Intermediate Algebra and Trigonometry or equivalent.

Credits: 3

### Hours

3 Class Hours;

### Course Profile

Learning Outcomes of the Course:

After successful completion of the course the student will be able to:

1. After a brief review:

- Write and recognize the equations of lines and parabolas.
  - Define a function and determine the domain of a given function.
  - Graph polynomials, rational functions and functions involving radicals.
  - Find the points of intersection of two functions.
2. Understand the concept of limit and use limit rules to evaluate limits.
  3. Understand the concept of continuity and find points of discontinuity of a given function.
  4. Define a derivative and find derivatives of functions using the definition.
  5. Understand the geometric interpretation of a derivative (slope of tangent line).
  6. Use the rules of differentiation to find derivatives of more complex functions.
  7. Use differentiation to solve max-min problems and to aid in curve sketching.
  8. Find anti-derivatives of functions.
  9. Evaluate definite integrals using the Fundamental Theorem of Calculus.
  10. Understand the geometric interpretation of the definite integral (area under curve).
  11. Graph logarithmic and exponential functions.
  12. Apply the properties of logarithms and exponents to solving equations (e.g., growth, compound interest, present value).
  13. Differentiate and integrate logarithmic and exponential functions and apply this knowledge to solve problems in business and economics.
  14. Apply differentiation (rate of change of a function) to solve problems in business and economics (e.g., marginal cost and revenue, maximization of profits).
  15. Apply integration to solve problems in business and economics (e.g., total value, expected value).

Calculator Objectives:

1. Graphing functions derived from applications to reinforce Calculus solutions.
2. Find limits graphically.
3. Find the slope of a tangent line to a curve at a specified point.
4. Graph a function and the tangent line at a specified point on the function.
5. Explain why the graphing calculator really does not draw a vertical asymptote for functions.
6. Graph a function and its derivative on the same axes.
7. Find relative extrema and inflection points of a function.



8. Evaluate definite integrals.
9. Show and determine the area under a curve.

## **MAT 148 - Applied Technical Mathematics I**

This first course in a two-semester sequence of intermediate algebra and trigonometry with technical applications. Topics include: operations in the real number system, expressions and functions, first-degree equations, properties of lines, systems of linear equations, trigonometric functions, geometry (perimeters, areas, volumes of common figures), polynomials, exponents, algebraic products and factoring, algebraic fractions and operations, rational expressions, radical expressions, quadratic equations, and graphs of functions.

### **Prerequisite- Corequisite**

Prerequisite: MAT 096 Elementary Algebra and Trigonometry or equivalent.

Credits: 4

### **Hours**

4 Class Hours;

### **Course Profile**

Learning Outcomes of the Course:

Overall Goals of the Course:

1. To provide an integrated treatment of mathematics topics essential for a sound technical mathematics background.
2. To teach the transfer of mathematical concepts and skills to applications in telecommunications.
3. To increase analytical and computational skills, including use of a graphing calculator and the laptop computer.
4. To develop a systematic approach to problem solving.
5. To increase reading comprehension in mathematics.
6. To provide sufficient skills so that the student will be able to effectively deal with mathematical requirements in other allied courses requiring a technical mathematics background.
7. To function as teams to learn team building skills while solving problems.

Student Performance/Behavioral Objectives:

After successful completion of this course the student will be able to:

1. Demonstrate understanding of real, rational, and irrational numbers.
2. Demonstrate an understanding of operations with signed numbers.
3. Demonstrate the use of the laws of exponents.
4. Demonstrate the understanding of Order of Operations.
5. Demonstrate the fundamental algebraic operations and terminology of algebraic expressions.
6. Evaluate literal expressions.
7. Solve first-degree equations with one unknown.
8. Analyze and solve direct and inverse proportions.
9. Analyze and solve word problems involving the use of linear and rational equations and functions.
10. Graph and interpret functions.
11. Demonstrate multiplication of algebraic expressions using special products, long multiplication, and the FOIL method.
12. Demonstrate long division of polynomials.
13. Use various methods to factor algebraic expressions.

14. Demonstrate various operations with algebraic fractions.
15. Solve fractional equations.
16. Change a number to scientific notation and vice versa.
17. Solve quadratic equations by factoring and by the quadratic formula.
18. Solve incomplete quadratic equations.
19. Use the Cartesian coordinate system to graph and interpret equations of two variables.
20. Demonstrate knowledge of the slope-intercept form.
21. Demonstrate knowledge of the point-slope form.
22. Solve systems of linear equations by graphing, addition method, substitution method, and by determinants.
23. Identify geometric shapes and formulas (perimeter, area, volume) and use in applications.
24. Define and evaluate trigonometric functions from 0 degrees to 90 degrees and their inverses.
25. Analyze and solve right triangles.
26. Demonstrate the use of basic metric units and dimensional analysis.

#### Computer/Calculator Skills

1. Convert decimal degrees to degree-minute-second to radians and reverse.
2. Evaluate trigonometric functions and inverse trigonometric functions.
3. Evaluate powers and roots.
4. Use scientific notation and engineering notation.
5. Evaluate real functions using the graphing calculator.

## **MAT 149 - Applied Technical Mathematics-IS**

This is the second course in a two semester sequence of intermediate algebra and trigonometry with technical applications. Topics include operations with exponents and radicals, exponential and logarithmic functions and equations, trig functions of any angle, radians, sinusoidal functions and graphing, vectors, complex numbers and their applications, oblique triangles, inequalities, introduction to statistics and an intuitive approach to calculus. The graphing calculator, a laptop computer, and umbrella competencies will be integrated throughout the course.

#### **Prerequisite- Corequisite**

Prerequisite: MAT 148 Applied Technical Mathematics I or equivalent.

Credits: 4

#### **Hours**

4 Class Hours;

#### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Simplify algebraic radicals.
2. Convert fractional exponents to radicals and the reverse.
3. Demonstrate fundamental operations in radicals.
4. Solve equations with radicals.
5. Convert degrees to radians and the reverse.
6. Evaluate trigonometric functions and their inverses for angles measured in degrees and radians.
7. Solve oblique triangles using the law of sines and/or law of cosines.
8. Graphically add vectors.

9. Solve vector problems by trigonometry using rectangular and polar forms.
10. Sketch and interpret the graphs of sinusoidal, exponential, and logarithmic functions and inequalities.
11. Perform fundamental operations on algebraic terms involving exponents and radicals.
12. Covert complex numbers in various forms: rectangular, polar, exponential.
13. Perform the fundamental operations (addition, subtraction, multiplication, division) using the rectangular form of complex numbers.
14. Perform multiplication and division of complex numbers in polar and exponential form.
15. Using DeMoivre's Theorem raise complex numbers to powers and roots.
16. Demonstrate the use of common logarithms and natural logarithms.
17. Solve exponential and logarithmic equations.
18. Graph exponential functions using log-log and semi-log paper.
19. Summarize and interpret data using frequency distribution, measures of central tendency, and measures of dispersion.
20. Given a set of data, find the line of best fit.
21. Apply process control and quality assurance.
22. Develop an intuitive feel for the concepts of limits, derivative (instantaneous rate of change), integral (area under a curve).

#### Overall Goals of the Course:

1. To provide an integrated treatment of mathematics topics which are essential for a solid mathematical background for the telecommunication technician.
2. To demonstrate the transfer of mathematical concepts and skills to applications within telecommunications.
3. To increase computational and graphing skills using the graphing calculator and the computer.
4. To develop a systematic approach to problem solving.
5. To provide sufficient mathematical skills so a student will be able to successfully deal with mathematical requirements of allied courses.
6. To increase awareness and use of the umbrella competencies, particularly team building skills while solving problems.

## MAT 156 - Algebra and Trigonometry for Calculus

Graphs of rational functions, asymptotes, exponential and logarithmic equations, conic sections, matrix arithmetic and matrix solutions to systems of equations, determinants, trigonometric identities and equations, Law of Sines, Law of Cosines, vectors, polar graphs, parametric graphs, polar form of complex numbers, powers and roots of complex numbers, limits of functions using tables.

#### Prerequisite- Corequisite

Prerequisite: MAT 136 College Algebra and Trigonometry or equivalent.

Credits: 4

#### Hours

4 Class Hours;

#### Course Profile

Learning Outcomes of the Course:

Perform skills in three categories: Algebra, Geometry, Trigonometry; Non Calculator Graphing; and Graphing Calculator.



Note: Throughout the course the students are expected to solve applied problems related to the topics of the course.

After successful completion of this course the student will be able to:

**Algebra, Geometry, Trigonometry Objectives:**

1. Be able to determine the horizontal, vertical, and oblique asymptotes of a rational function.
2. Solve rational, polynomial, exponential, logarithmic, trigonometric equations, and inequalities analytically.
3. Solve problems involving conic section formulas for a circle, parabola, ellipse, and hyperbola.
4. Find the determinant of 2 by 2 and 3 by 3 matrices by hand.
5. Solve systems of linear equations using elimination and row operations on matrices.
6. Add, subtract, multiply matrices.
7. Verify trigonometric identities involving the reciprocal identities, quotient identities, Pythagorean identities, angle sum identities, double angle identities, and half angle identities.
8. Verify inverse trigonometric identities.
9. Apply the Law of Sines to solve application problems.
10. Explain and solve the ambiguous case for the Law of Sines.
11. Apply the Law of Cosines to solve application problems.
12. Define a vector.
13. Perform vector arithmetic, including magnitude.
14. Use component vectors to solve application problems.
15. Convert between trigonometric (polar) and rectangular forms of complex numbers.
16. Introduce the concept of a limit through tabular values.

**Non Calculator Graphing Objectives:**

17. Name the equation of a transformed basic function/relation by viewing its graph.
18. Construct a graph of a rational function from its intercepts and asymptotes.
19. Graph  $y = \sin^{-1}x$ ,  $y = \cos^{-1}x$ ,  $y = \tan^{-1}x$ ,  $y = \sec^{-1}x$  on a suitable domain.
20. Graph  $\ln x$ ,  $e^x$ ,  $\log_a x$  and  $a^x$ .
21. Graph conic sections.
22. Recognize the form and graphs of basic polar equations.
23. Recognize the form and graphs of basic parametric equations.
24. Graph basic parametric equations and basic polar equations.
25. Solve systems of two linear inequalities.

**Graphing Calculator Objectives:**

26. Explain why the graphing calculator really does not draw a vertical asymptote for the function.
27. Find the real and complex zeroes of a polynomial function using the Computer Algebra System.
28. Use DeMoivre's Theorem to compute powers and roots of complex numbers in trigonometric (polar) and rectangular forms using the Computer Algebra System.
29. Perform the partial fraction decomposition of a rational expression using the Computer Algebra System.
30. Solve equations and inequalities with rational, polynomials, exponential, logarithmic, trigonometric and inverse logarithmic, trigonometric functions using the intersection method.
31. Solve equations and inequalities with rational, polynomials, exponential, logarithmic, trigonometric and inverse logarithmic, trigonometric functions using the Computer Algebra System.
32. Graph advanced polar equations and advanced parametric equations.
33. Find the determinant of 2 by 2 and 3 by 3 matrices.
34. Find solutions to system of inequalities using the shading capabilities of the calculator.



## MAT 160 - Applied Calculus I

Designed for students in the Engineering Technologies only, this course covers the mechanics of calculus using application problems from technology fields. Topics include: equations of tangent lines; limits; differentiation and integration of algebraic, logarithmic, exponential, and trigonometric functions; product rule, quotient rule, and chain rule; implicit differentiation; related rates; maxima and minima; differentials; the definite integral and applications to finding area, center of gravity, volume of revolution and work done; numerical integration.

### Prerequisite- Corequisite

Prerequisite: MAT 130 Applied Algebra and Trigonometry or equivalent

Credits: 4

### Hours

4 Class Hours;

### Course Profile

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Write the equation of a tangent line.
2. Evaluate limits algebraically.
3. Use limits to find vertical and horizontal asymptotes.
4. Find the points of discontinuity of a function.
5. Differentiate logarithmic, exponential, trigonometric and inverse trigonometric functions.
6. Use the chain rule, product and quotient rules in differentiating.
7. Differentiate implicitly.
8. Solve related rate problems.
9. Use differentials to find approximate values.
10. Antidifferentiate logarithmic, exponential, trigonometric and inverse trigonometric functions.
11. Use calculus methods to find area, center of gravity, volume of revolution, work done.
12. Use calculus methods to find maximum and minimum points of functions.
13. Use calculus methods to solve simple circuit and kinematic problems.
14. Approximate integrals using numeric methods.

Calculator objectives:

1. Graphing functions derived from applications to reinforce Calculus solutions.
2. Find limits graphically.
3. Find the slope of a tangent line to a curve at a specified point.
4. Graph a function and the tangent line at a specified point on the function.
5. Explain why the graphing calculator really does not draw a vertical asymptote for functions.
6. Graph a function and its derivative on the same axes.
7. Find relative extrema and inflection points of a function.
8. Evaluate definite integrals.
9. Show and determine the area under a curve.

## MAT 181 - Calculus I

A university parallel calculus course covering functions, limits and continuity. Differentiation and integration of polynomial, rational, trigonometric, logarithmic, exponential, and inverse trigonometric functions using computational, intuitive and technology assisted methods. Applications including curve sketching, rectilinear motion, related rates, maxima and minima. Summation, integration and the Fundamental Theorem of Calculus, and applications of the definite integral. Emphasis will be placed on analyzing problems using technology assisted methods.

NOTE: Students may not use more than one of the following to meet graduation requirements: MAT 146, MAT 160, MAT 181.

### **Prerequisite- Corequisite**

Prerequisite: MAT 156 Algebra & Trigonometry for Calculus or equivalent.

Credits: 4

### **Hours**

4 Class Hours;

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Find limits using computational, intuitive and technology assisted methods.
2. Understand the formal definition of a limit.
3. Determine continuity of functions.
4. Find the derivative of a function using the limit definition.
5. Graph, differentiate and integrate polynomial, rational, trigonometric, logarithmic, and exponential functions, using computational, intuitive, and technology assisted methods.
6. Find derivatives by the chain rule.
7. Find implicit derivatives.
8. Understand differentials and linear approximations and their relation to the derivative.
9. Understand the Mean Value Theorem and Rolle's Theorem.
10. Set up and solve maxima and minima problems and related rate problems.
11. Use the first and second derivatives as aids in sketching curves.
12. Find antiderivatives.
13. Understand sigma notation and know that a definite integral is the limit of a Riemann sum.
14. Understand the Fundamental Theorem of Calculus.
15. Integrate by Substitution.
16. Apply the definite integral to problems involving volume, curve length, and surface area.
17. Understand and solve elementary differential equations.
18. Integrate using approximation techniques.

## **MAT 182 - Calculus II**

Exponential and logarithmic functions from an integral viewpoint, the calculus of inverse functions. Techniques of integration including integration by parts, partial fractions and trigonometric substitution. Improper integrals. Sequences, detecting convergence, and L'Hospital's rule. Infinite series, tests for convergence, power series, Maclaurin series and Taylor series. Polar curves, parametric equations and conics in calculus.

### **Prerequisite- Corequisite**

Prerequisite: MAT 181 Calculus I.

Credits: 4

**Hours**

4 Class Hours;

**Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Define a sequence and a series.
2. Test series for convergence.
3. Test alternating series for absolute or conditional convergence.
4. Perform operations with power series.
5. Find the radius of convergence of a power series.
6. Develop Taylor and Maclaurin series expansions for a function.
7. Employ various integration techniques including integration by parts, trigonometric substitution and partial fractions.
8. Evaluate improper integrals.
9. Solve elementary differential equations.
10. Compute limits using L'Hopital's Rule.
11. Transform from rectangular to polar coordinates and from polar to rectangular.
12. Graph in polar coordinates.
13. Compute area in polar coordinates.
14. Compute arc length in polar coordinates.
15. Use graphing calculator as an aid in analyzing problems.
16. Graph parametric equations.
17. Use Calculus with parametric equations.
18. Recognize graphs and perform calculus on various conics.

## **MAT 224 - Statistics II**

Review of probability fundamentals, discrete random variables and probability distributions. The F distributions, chi-squared distributions, hypothesis testing, analysis of variance, linear regression and correlation, nonlinear and multiple regression, the analysis of categorical data, nonparametric procedures, use of a statistical software package.

**Prerequisite- Corequisite**

Prerequisite: MAT 124 Statistics I.

Credits: 3

**Hours**

3 Class Hours;

**Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Compute the mean and standard deviation for a discrete probability distribution and construct the probability histogram.
2. Solve probability problems using discrete probability distributions such as the binomial and Poisson.

3. Use the chi-square distribution to perform tests on multinomial experiments, goodness-of-fit and tests of homogeneity and independence.
4. Compute the probability of Type I and Type II errors associated with tests of hypotheses about means.
5. Compute the least squares regression line for a bivariate population and test it as a model for the population.
6. Compute, test, and interpret the meaning of the correlation coefficient for a bivariate population.
7. Use the F-distribution to test inferences about two variances.
8. Perform analysis of variance (ANOVA).
9. Test the assumptions for ANOVA.
10. Perform analysis using multiple regression and correlation models.
11. Use nonparametric statistics to conduct tests of hypotheses.
12. Use a statistical software package to conduct various data analyses.

## **MAT 245 - Design of Experiments**

This course is an introduction to the most common types of statistical designs and analyses of experiments. Topics include single-factor experiments with randomized blocks, Latin squares, incomplete blocks, two-factor experiments,  $2^k$  designs, fractional designs, response surface techniques, and other selected topics. Technology will be used throughout the course.

### **Prerequisite- Corequisite**

Prerequisite: MAT 224 Statistics II or MAT 260 Applied Probability and Statistics.

Credits: 3

### **Hours**

3 Class Hours;

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Determine an appropriate design to fit the analysis.
2. Test hypotheses with contrasts.
3. Analyze an experiment using completely randomized designs, complete block designs, incomplete block designs, Latin square designs.
4. Develop and analyze factorial designs.
5. Use response surface methods.
6. Use nested design and covariance design.
7. Use technology for design and analysis of experiments.

## **MAT 250 - Discrete Mathematics**

Sets, functions, mathematical induction, relations, partially ordered sets, combinatorics including permutations, the pigeonhole principle, binomial and multinomial coefficients, recurrence relations, generating functions, the principle of inclusion-exclusion. Graph theory, including paths and connectedness, minimum length paths, Eulerian and Hamiltonian graphs, graph isomorphisms, trees, planar and nonplanar graphs.



**Prerequisite- Corequisite**

Prerequisite: MAT 182 Calculus II.

Credits: 4

**Hours**

4 Class Hours;

**Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Use deduction and techniques of problem solving.
2. Use Mathematical Induction.
3. Use sets, relations and Cartesian product of sets.
4. Use binary relations, equivalence relations and partial orders.
5. Use functions, injections, surjections, bijections.
6. Use the Pigeonhole principle.
7. Use the fundamental counting principle.
8. Use permutations and combinations.
9. Use probability.
10. Use permutations and combinations with unlimited repetition.
11. Use the Binomial theorem.
12. Use the Multinomial theorem.
13. Use the Principle of inclusion-exclusion.
14. Use graph models.
15. Use Isomorphic, complete and bipartite graphs.
16. Use the degree of a vertex and related theorems.
17. Use walks, paths, trails, circuits of a graph.
18. Use Eulerian and Hamiltonian graphs.
19. Use planar and nonplanar graphs.
20. Use trees, spanning trees.
21. Use minimum length paths, minimum weight trees.
22. Use optimal binary trees.
23. Use generating functions.
24. Use recurrence relations and find their solutions.

**MAT 260 - Applied Probability and Statistics**

Descriptive statistics, probability and random variables, discrete and continuous probability distributions, joint distributions, sampling distributions, confidence interval estimates, hypothesis tests on means, categorical populations, and the form of distributions, linear regression analysis on bivariate and multivariate data, single factor ANOVA, randomized block experiments, all with a strong emphasis on engineering applications and the use of statistical software to simulate, model, and analyze data.

**Prerequisite- Corequisite**

Prerequisite: MAT 182 Calculus II w/Analytic Geometry

Credits: 4

**Hours**

4 Class Hours;

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Use statistical software to construct data plots and displays, interpret these.
2. Compute probabilities using the basic rules of probability.
3. Compute probabilities, means and variances of discrete and continuous random variables, and interpret these.
4. Compute probabilities, means and variances of sampling distributions, and interpret these.
5. Compute probabilities, means and covariances of joint distributions, and interpret these.
6. Perform computer simulations to investigate characteristics of probability distributions.
7. Use statistical software to check whether data meet underlying assumptions of a probability model.
8. Compute confidence interval estimates and interpret these.
9. Perform computer simulations to illustrate confidence interval estimates.
10. Perform hypothesis tests about means and interpret the results.
11. Perform hypothesis tests about categorical populations and interpret the results.
12. Perform hypothesis tests about the form of distributions and interpret the results.
13. Use statistical software to perform Analysis of Variance (ANOVA) for the Single Factor and Randomized Block experiments, and interpret the results.
14. Use statistical software to perform linear regression analysis for bivariate and multivariate data, and interpret the results.
15. Use statistical software to perform residual analysis for linear regression models, and interpret the results.

**MAT 264 - Linear Algebra**

Linear equations and matrices, vector spaces, inner product spaces, linear independence, linear transformations. Determinants and Cramer's rule, systems of homogeneous equations, Gram-Schmidt process and diagonalization. Eigenvalues and eigenvectors and applications.

**Prerequisite- Corequisite**

Prerequisite: MAT 182 Calculus II w/Analytic Geometry.

Credits: 4

**Hours**

4 Class Hours;

**Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Solve systems of equations using Gauss-Jordan elimination.
2. Find non-trivial solutions to homogeneous systems of equations.
3. Find the inverse of a matrix by elementary row operations.
4. Compute determinants and solve equations using Cramer's rule.
5. Define a vector space.
6. Determine if a set of vectors form a vector space.
7. Determine if a set of vectors are independent.

8. Determine if a set of vectors span a given vector space.
9. Find the dimension of a vector space and determine if a set of vectors form a basis for the space.
10. Find the dimension of the row space and column space of a matrix.
11. Find the rank of a matrix.
12. Define an inner product space.
13. Use the Gram-Schmidt process to generate an orthogonal and orthonormal basis for a vector space.
14. Diagonalize a matrix using eigenvalues and eigenvectors.
15. Define a linear transformation and show a given transformation is linear.
16. Represent a linear transformation by a matrix.
17. Find the range and kernel of a linear transformation.
18. Use the techniques and concepts of linear algebra in a variety of real-life applications.

## **MAT 266 - Introduction to Higher Math**

This course provides a rigorous introduction to the concepts of sets, measures, functions, sequences, series and metric spaces. Emphasis will be placed on writing mathematics clearly and concisely. Recommended for Mathematics majors or Computer Science and Engineering Science students as advised.

### **Prerequisite- Corequisite**

Prerequisite: MAT 281 Calculus III or permission of the instructor.

Credits: 3

### **Hours**

3 Class Hours;

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Prove one set is a subset of another.
2. Prove two sets are equal.
3. Verify that a function is one-to-one and/or onto.
4. Prove theorems about the functions and inverse functions.
5. Use the principle of mathematical induction.
6. Define continuity of a function at a point.
7. Define a bound on a set.
8. Find infima and suprema of a set.
9. Identify sets as countable or uncountable.
10. Calculate the measure of a set.
11. Define the Cantor Set.
12. Define a sequence and be able to identify the following:
  - a. monotonicity
  - b. convergence
  - c. isolated points
  - d. accumulation points
  - e. boundedness
  - f. the Cauchy property

13. Define pointwise and uniform convergence for sequences of functions.

## **MAT 281 - Calculus III**

Triple integrals with cylindrical and spherical coordinates. Vector geometry and vector calculus in two and three dimensions. Calculus of multivariable functions: gradient, extrema and optimization (with and without constraints). Line and surface integrals. Green's theorem and Stokes' theorem.

### **Prerequisite- Corequisite**

Prerequisite: MAT 182 Calculus II.

Credits: 4

### **Hours**

4 Class Hours;

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Graph surfaces in three space.
2. Find the domain and determine continuity of a function of two or more variables.
3. Compute limits of functions of two variables.
4. Compute partial derivatives.
5. Find directional derivatives and gradients.
6. Find maxima and minima of functions of several variables.
7. Find derivatives using the multivariable chain rule.
8. Compute iterated integrals.
9. Find volume by using double integrals.
10. Find area and volume by using iterated integrals.
11. Compute triple integrals using rectangular, cylindrical and spherical coordinates.
12. Use triple integrals to solve application problems.
13. Compute line and surface integrals.
14. Use Green's Theorem and Stokes' Theorem.
15. Use LaGrange Multipliers.
16. Use graphing calculators to aid in problem solving.
17. Find scalar and vector products.
18. Use vector-valued functions.
19. Find unit tangents and normal vectors.
20. Find equations of lines and planes in three spaces.
21. Evaluate curvature.
22. Describe the motion of a projectile using vectors.

## **MAT 282 - Differential Equations w/Linear Algebra**

First and second order differential equations. Matrices, determinants, eigenvalues and eigenvectors, and systems of linear equations. Linear independence, the Wronskian, and differential operators. Homogeneous and nonhomogeneous linear differential equations with constant coefficients. Methods



of undetermined coefficients, and variation of parameters. Systems of linear differential equations, Laplace transforms, and power series solutions.

**Prerequisite- Corequisite**

Prerequisite: MAT 182 Calculus II or equivalent.

Credits: 4

**Hours**

4 Class Hours;

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Recognize and solve first and second order differential equations.
2. Extend the methods for first and second order differential equations to nth order differential equations, where applicable.
3. Solve a system of linear equations using elementary row operations and, when it exists, the inverse matrix for the system.
4. Understand the concept of a vector space and subspace.
5. Determine if a set of vectors is linearly independent.
6. Calculate and use the Wronskian.
7. Calculate eigenvalues and find the associated eigenvectors.
8. Use eigenvalues and matrix methods to solve a system of linear differential equations.
9. Use Laplace transforms to solve nth order linear initial-value problems and systems of linear differential equations.
10. Use power series to solve differential equations.

## **MAT 299 - Independent Study**

The student undertakes an independent project in his/her specialty under the guidance of a faculty member. Only one independent study course allowed per semester. Consideration may be given a project involving work assignment.

**Prerequisite- Corequisite**

Prerequisite: Department Chairperson Permission.

Credits: (1-4)

## **MDA 102 - Medical Assisting Science**

Introduction to the profession of medical assisting. Topics include: qualifications and duties, professional affiliation, history of medicine, ethics and professionalism, and the role of the medical assistant in the physician's office. Orientation to effective interactions with patients and staff.

Credits: 2

**Hours**

2 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define professionalism and give five examples of professional behavior.
2. Describe and discuss the importance of patient confidentiality.
3. Discuss and role-play a demonstration of the roles of temperament and communication style in interpersonal and professional relationships.
4. Recognize and give five examples of sensitivity of cultural competency.

## **MDA 104 - Keyboarding and Medical Word Processing**

Introduction to and development of basic keyboarding skills on computer keyboards and beginning word processing. Students will have the opportunity to learn keyboarding and word processing functions and apply that knowledge to build typing speed and accuracy. Emphasis will be on application to medical correspondence, reports, and developing presentations.

### **Prerequisite- Corequisite**

Prerequisite: BIO 131 Human Biology, HIT 106 Medical Terminology, or taken concurrently.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Produce an error-free document while striving to key at least 30 words per minute.
2. Understand the uses of and produce an Excel spreadsheet, a PowerPoint presentation, and a Microsoft Word document.
3. Understand and produce error-free, correctly formatted medical correspondence.
4. Identify and define terms and concepts related to the basic operation of computers, Internet, and demonstrate how to send, receive, and reply to e-mail.

## **MDA 106 - Medical Transcription and Correspondence**

Introductory course emphasizing the fundamentals of medical transcription. Orientation to equipment and software training including authentic physician dictation organized by medical specialty. Transcription of various medical reports, including chart notes, letters, history and physicals, consultation reports, and discharge summaries, while building typing speed and accuracy. Review of medical terminology related to the medical specialties.

### **Prerequisite- Corequisite**

Prerequisite: HIT 106 Medical Terminology I and MDA 104 Keyboarding and Medical Word Processing, or BIT 100 Keyboarding, or concurrently.

Credits: 4

**Cross-listed**

HIT 107

**Hours**

4 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Produce an error-free transcribed letter, consultation, chart note, history and physical report, and discharge summary dictated by a variety of physicians.
2. Edit the transcript to correct obvious grammatical and punctuation errors, while identifying medical transcription inconsistencies.
3. Develop keyboarding skills and an increased knowledge of medical terminology, confidentiality, and professionalism.
4. Demonstrate the ability to utilize references and resources efficiently.

**MDA 114 - Standard First Aid Management of Emergencies**

The causes, prevention, and response to accident emergency lifesaving situations in the community and the healthcare setting. Course includes First Aid Certification by National Safety Council. Emphasis on recognizing, managing and responding to medical emergencies and maintaining emergency supplies.

Credits: 1

**Hours**

2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define First Aid.
2. Describe the medical assistant's legal and ethical responsibilities in an emergency.
3. Identify situations that may jeopardize the safety of the rescuer.
4. List the basic items that must be included in a first response kit.
5. Explain the use of a defibrillator and how it is used in an emergency.
6. Recognize and respond to a choking victim.
7. Recall the conditions that necessitate the implementation of cardiopulmonary resuscitation.
8. Identify the major symptoms associated with a heart attack.
9. List three medications that a first aider may assist the patient in administering.
10. Describe the emergency medical care for patients suffering from asthma, anaphylactic shock, convulsions, and hemorrhagic shock.
11. State the functions of a Poison Control Center.

**MDA 115 - Medical Assisting Procedures I**

Basic clinical procedures of medical assisting in the physician's office. Use and management of diagnostic instruments and equipment. Related patient care, professional ethics, medical terminology, nomenclature.

**Prerequisite- Corequisite**

Prerequisite: HIT 106 Medical Terminology and BIO 131 Human Biology I.

Credits: 4

**Hours**

3 Class Hours, 2 Laboratory Hours

**Note**

For Medical Assisting students

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify and apply the elements of the source-oriented and problem-oriented medical records in their laboratory experience.
2. Explain the purpose and practice using the various types of information needed for each element or section of the patient history.
3. Discuss the legal implications of the patient history and interviewing process.
4. State the purpose for and obtain correct measurements of vital signs.
5. Describe and simulate the preparation of the examination room and patient for a general examination.
6. Recognize, define, and demonstrate steps related to disinfection, sterilization, and asepsis.
7. Recognize and name the different types of instruments by category and describe how to care for them properly.
8. Differentiate between medical asepsis (clean technique) and surgical asepsis (sterile technique).
9. Explain and demonstrate the rules for the aseptic handling of instruments and supplies.
10. List the materials and human substances that are considered hazardous medical wastes.
11. Compare the various wound types and classifications of healing.

**MDA 201 - Medical Assisting Procedures II**

Introduction to basic microbiology, hematology and urinalysis. Collection, preparation, and testing of blood, urine and body fluids. Significance of laboratory analysis.

**Prerequisite- Corequisite**

Prerequisite: BIO 132 Human Biology II (or concurrently), MDA 115 Medical Assisting Procedures I.

Credits: 4

**Hours**

2 Class Hours, 4 Laboratory Hours

**Note**

For Medical Assisting students



## **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify and understand terms related to Urinalysis, Hematology, Basic Chemistry and Immunology, and Microbiology.
2. Demonstrate procedures consisting of collection, preparation, and testing of blood, urine, and other specimens.
3. Understand medical/laboratory terms and the safety rules of a laboratory.
4. Discuss and define quality control and quality assurance issues related to the medical laboratory.
5. View laboratory reports and recognize potential life threatening results.

## **MDA 206 - Medical Office Management**

Medical office administrative procedures, such as bookkeeping principles and practices, patient health records, insurance forms, banking and postal services, payroll records, patient accounts, office machines, mechanics of applicable medical correspondence, appointment scheduling, supplies and inventory. Emphasis on practical application of administrative techniques.

### **Prerequisite- Corequisite**

Prerequisites: MAT 090 or equivalent, MDA 102 Medical Assisting Science and MDA 104 Keyboarding and Medical Word Processing.

Credits: 4

### **Hours**

3 Class Hours, 2 Laboratory Hours

### **Note**

For Medical Assisting students only

## **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the desirable characteristics of the physical layout of the medical office.
2. Demonstrate the collaboration and creation of required medical information in role-play between the patient and the medical assistant student in: (1) registration forms, (2) creating the patient chart, (3) completion of a history and physical form, and (4) appointment scheduling.
3. Demonstrate appropriate interactions with typical, angry, scared, or problem patients, both in person and in telephone communications.
4. Discuss and practice outpatient/inpatient/other medical office referrals and paperwork.
5. Create a filing system for their laboratory results and information.
6. Discuss and use a physician fee schedule.
7. Analyze and implement correct CMS 1500 filing requirements for various insurance plans including (1) commercial, (2) managed care, (3) Blue Cross/Blue Shield, (4) Tricare, (5) Champus, and (6) Worker's Compensation.
8. Describe and demonstrate insurance claim submission guidelines and appeals.
9. Explain the legal implications associated with creating and filing insurance claims.

## **MDA 207 - Advanced Medical Office Management**

Manual and electronic accounting, payroll and bookkeeping procedures for Medical Office. Includes banking, spreadsheets and reconciliations of bank statements. Preparation of Internal Revenue deposits, records, and year-end reports. Simulated office processes reinforce the accounting objectives.

### **Prerequisite- Corequisite**

Prerequisites: MDA 102 Medical Assisting Science, or concurrently.

Credits: 4

### **Hours**

3 Class Hours, 2 laboratory Hours

### **Note**

For Medical Assisting students only

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the students will be able to:

1. Perform banking transactions for the medical office, including check writing, transfer of funds, NSF checks and bank reconciliation.
2. Process payroll.
3. Perform billing and collections procedures.
4. List and describe the basic principles of accounting.
5. Differentiate between a debit balance and a credit balance.
6. State the basic accounting equation.
7. Perform basic accounting entries for a medical office, including debits, credits, adjustments, accounts receivable, accounts payable and owner equity accounts.
8. Use a physician's fee schedule when posting procedures.
9. Perform billing and collections procedures.
10. Prepare and record petty cash vouchers.

## **MDA 208W - Medical Ethics, Law and Economics**

Review of the medical ethics which set the standard of conduct for physicians and other healthcare professionals. Requirements to practice medicine, legal liabilities of the profession, and the importance of medicolegal consent forms. Legal arrangements of private medical practices, medical care financing, and systems of health care delivery.

Credits: 3

### **Hours**

3 Class Hours

### **Note**

This course is designated as a writing emphasis course

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define medical etiquette, ethics, and medicolegal principles and describe the difference between them.
2. Describe managed care and other medical practice policies and management procedures.
3. Identify the ethical principles as they pertain to the student's healthcare specialty.
4. Define and discuss the importance of maintaining HIPAA regulations as it pertains to the healthcare setting.
5. Describe basis for the scope of practice of various health care professionals, including the education, training, credentialing, and personal capabilities of practitioners in each discipline.
6. Describe the differences and similarities between civil and criminal law.
7. Recognize and describe regulations and professional liability for the health care professional.
8. Define the public duties regarding statutory and regulatory requirements.
9. Describe the different types of consent and the consent process.
10. Define and describe allocation of medical resources.
11. Recognize and discuss the ethical implications of various situations such as abortion, death and dying, and genetic engineering.

## **MDA 210 - Pharmacology**

An introduction to the clinical concepts of pharmacology and the review of the classes of pharmaceutical medications, including terminology, drug category, use, side effects, contraindications, and interactions. Emphasis on the actions and use of various groups of pharmacologic agents according to major drug classifications and body systems. Includes a review of prescriptions and prescription-writing, basic principles of pharmaceutical mathematics, the generic pharmaceutical relationship, common dosage ranges, and routes of administration. A practical course relevant to a variety of health science curricula.

### **Prerequisite- Corequisite**

Prerequisite: BIO 131 Human Biology I or consent of instructor.

Credits: 2

### **Hours**

2 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discuss the pharmacology principles used to prepare and administer oral, parenteral, and topical medications.
2. Maintain medication and immunization records.
3. Describe the correct practices of medication administration.
4. Differentiate between the generic name and trade name of a drug.
5. List advantages and disadvantages of using prescription and over-the-counter medications individually and in combination with one another.
6. List the information needed in each part of a prescription.
7. State the Drug Enforcement Agency (DEA) regulations for prescription drugs under each of the five schedules of the Controlled Substance Act.
8. Demonstrate how to correctly instruct patients to administer oral, parental, topical, vaginal, or



rectal medication safely and accurately and within a reasonable time.

9. List the properties, mechanism of drug action, indications and contraindications for the prototype drugs of choice for each body system.

## **MDA 211 - Medical Assisting Procedures III**

Advanced technical procedures in medical assisting specifically oriented to the various medical specialties. Techniques of electrocardiography, audiometry and physical therapy.

### **Prerequisite- Corequisite**

Prerequisites: BIO 132 Human Biology, or BIO 101 Introduction to Anatomy and Physiology.

Co-requisites: MDA 211L Medical Assisting Procedures III Laboratory (for Medical Assisting Majors).

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify and understand terms related to the disease and disabilities studied in this course, cell and tissue damage, inflammation and healing, immune response, and infectious diseases.
2. Explain the causes and classification of diseases and disability.
3. Describe the pathophysiology processes involved in the systems studied in this course, including immune, musculoskeletal, blood and blood forming organs, cardiovascular, respiratory, lymphatic, digestive, liver, gallbladder, pancreas, urinary, endocrine, nervous, eye and ear, reproductive, integumentary, genetic and developmental, and mental health disorders.

## **MDA 211L - Medical Assisting Procedures III Laboratory**

Practical application of advanced technical procedures in medical assisting specifically oriented to the various medical specialties. Practice of the techniques of electrocardiography, audiometry and physical therapy. Field trips and practical experiences give additional background outside of the classroom.

### **Prerequisite- Corequisite**

Prerequisites: BIO 132 Human Biology II, MDA 115 Medical Assisting Procedures I, MDA 201 Medical Assisting Procedures II.

Corequisites: MDA 211 Medical Assisting Procedures III.

Credits: 1

### **Hours**

2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:



Upon successful completion of this course the student will be able to:

1. Describe the principles of cardiac function and perform electrocardiography.
2. Demonstrate how to prepare and maintain examination rooms.
3. Prepare a patient for and assist with routine and specialty exams.
4. Assist with procedures, treatments, and minor office surgeries.
5. Prepare, communicate, and demonstrate patient instruction in procedures and preparation related to visual, auditory, and respiratory systems, assistive devices, and diagnostic imaging.

## **MDA 245 - Directed Practice Seminar**

Integration of theoretical knowledge and practical experience as an extern in physician's offices, medical centers, school health departments, rehabilitation clinics, and other health care facilities.

### **Prerequisite- Corequisite**

Prerequisites: MDA 246 Clinical Practicum I, MDA 247 Clinical Practicum II.

Credits: 1

### **Hours**

1 Class Hour

### **Note**

For Senior Medical Assisting students

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain the essentials of an externship and list the responsibilities of the student during externship.
2. Identify and demonstrate essential skills in seeking employment in the medical assisting field.
3. Describe the roles of temperament and communication style in interpersonal and professional relationships.
4. Define professionalism, give examples of professional behavior, and demonstrate appropriate professional behavior.
5. Define the professional role, certification, and "scope of practice" of a practicing medical assistant.
6. Explain the essentials of the certification process.
7. Identify strategies for becoming involved in the medical assisting professional community.

## **MDA 246 - Clinical Practicum I**

Supervised practical experience for development of fundamental skills in medical assisting procedures through an externship placement in locations such as physician's offices, medical centers, school health departments, rehabilitation clinics, and other health care facilities. Clinical hours: 16 hr/week for 7.5 weeks.

**Prerequisite- Corequisite**

Prerequisites: MDA 210 Pharmacology, MDA 207 Advanced Medical Office Management.

Corequisites: MDA 245 Directed Practice Seminar, MDA 211 Medical Assisting Procedures III.

Credits: 4

**Hours**

8 Clinical Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the roles and responsibilities of the medical assistant in the clinical and administrative setting.
2. Identify the roles and responsibilities of other team members in the medical office.
3. Apply principles of aseptic techniques and infection control.
4. Practice Standard Precautions, including handwashing and disposal of biohazardous materials.
5. Perform sterilization techniques.
6. Comply with quality assurance practices.
7. Perform and practice diagnostic procedures, patient care, clinical/administrative procedures, effective communication, and legal concepts within the scope of practice of the student medical assistant.

**MDA 247 - Clinical Practicum II**

Supervised practical experience for development of competency in medical assisting procedures through an externship placement in locations such as physician's offices, medical centers, school health departments, rehabilitation clinics, and other health care facilities. Clinical hours: 16 hr/week for 7.5 weeks.

**Prerequisite- Corequisite**

Prerequisites: MDA 210 Pharmacology (or concurrently), MDA 207 Advanced Medical Office Management.

Corequisite: MDA 245 Directed Practice Seminar, MDA 211 Medical Assisting Procedures III.

Credits: 4

**Hours**

8 Clinical Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the roles and responsibilities of the medical assistant in the clinical and administrative setting.

2. Identify the roles and responsibilities of other team members in the medical office.
3. Apply principles of aseptic technique and infection control.
4. Practice Standard Precautions, including handwashing and disposal of biohazardous materials.
5. Perform sterilization techniques.
6. Comply with quality assurance practices.
7. Perform and practice diagnostic procedures, patient care, clinical/administrative procedures, effective communication, and legal concepts within the scope of practice of the student medical assistant.

## **MET 112 - Metrology**

The study of the science of measurement systems and measurement. Accuracy, precision and reliability compared. Standards, including surface finish. Students learn to use the steel rule, calipers, micrometers, fixed gauges, feeler gauges, radius gauges, gauge blocks and surface plates, height and planer gauges, V-blocks, toolmaker's flat, mechanical indicating equipment, visual guage, air gauges, toolmaker's microscope, optical flats and angle measuring equipment. Calibration of instruments and appropriate record keeping.

### **Prerequisite- Corequisite**

Prerequisite: MAT 096 Elementary Algebra and Trigonometry.

Credits: 3

### **Hours**

3 Class Hours;

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the principles of dimensional measurement.
2. Know the methods and skills necessary to perform practical measurements in industry.

## **MET 113 - Engineering Drawing I w/CAD**

An introductory course in the fundamentals of engineering drawing and the basics of Computer Aided Drafting (CAD). Manual drafting techniques are integrated with extensive use of AutoCAD. Topics include use of the drawing instruments, geometric construction, freehand sketching, orthographic projection, sectional and auxiliary views and proper dimensioning techniques. CAD topics include file management; command structure; creating, editing and manipulating drawing elements; dimensioning. Students will gain an understanding of engineering drawing concepts by applying them in both manual drafting and AutoCAD assignments.

Credits: 2

### **Hours**

1 Class Hour, 3 Laboratory Hours.

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Know the importance of engineering drawing and the requirements of this graphic language.
2. Demonstrate the ability to construct an acceptable freehand sketch.
3. Be competent in the use of manual drafting tools and techniques.
4. Develop technically correct orthographic projections using proper projection techniques and the latest ASME Y14.5M standards.
5. Demonstrate the ability to dimension a moderately complex part using proper dimensioning techniques.
6. Generate different types of sectional views and choose which type of section is most appropriate for a given part.
7. Understand the reasons and concepts of auxiliary views.
8. Demonstrate the ability to create part drawings using AutoCAD in a timely fashion.

## **MET 116 - Engineering Drawing II w/CAD**

A second course in engineering drawing emphasizing the principles of descriptive geometry, working drawings, tolerancing methods, geometric dimensioning and tolerancing, with an introduction to Autodesk INVENTOR or other CAD software.

### **Prerequisite- Corequisite**

Prerequisite: MET 113 Engineering Drawing I w/CAD.

Credits: 3

### **Hours**

2 Class Hours, 3 Laboratory Hours;

### **Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Understand Autodesk Inventor's basic parametric modeling process by demonstrating the ability to create quality solid models.
2. Apply technical sketching skills of part and assembly concepts.
3. Generate detailed orthographic and axonometric drawings in a standard industrial format using the latest ASME standards.
4. Understand and apply the principles of descriptive geometry.
5. Develop a complete set of working drawings including identification numbers, bill of materials and engineering change documentation.
6. Have a thorough understanding of fits and tolerances.
7. Define typical thread notes and fastening techniques.
8. Apply geometric dimensioning and tolerance symbols and interpret their meaning on an engineering drawing.

## **MET 121 - Manufacturing Processes I**

A basic study of manufacturing materials and processes, such as: cutting-tool materials and cutting fluids, electrical discharge machining, properties of materials, drilling and related hole making processes, joining processes and equipment, producing and processing ferrous and non-ferrous metals. Laboratory exercises provide an opportunity for actual practice in the operation of selected



manufacturing equipment.

Credits: 2

**Hours**

1 Class Hour, 3 Laboratory Hours.

**Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Calculate speed, feed, and depth of cut for material removal operations using the "Machinery's Handbook."
2. Apply standard safety procedures for a manufacturing environment.
3. Identify and perform the basic material removal processes: facing, turning, drilling, boring, honing and milling.
4. Improve your skills for working effectively in a team environment.
5. Communicate the steps required to manufacture a product using industry standard terms.
6. Accurately use basic measurement tools such as calipers, micrometers, gage blocks, and attribute gages to achieve the desired sizes of parts and/or part features.
7. Understand the fundamental methods of fusion and solid state welding.
8. Have a better understanding of how raw materials are turned into useful products.

## **MET 122 - Manufacturing Processes II**

A continuation of the basic study of manufacturing processes. The nature of metals and alloys, heat treatment, various casting processes and the processing of metals by hot and cold working techniques. Special topics include screw thread systems and their measurement, indexing, gear terminology and manufacturing methods, tapers and computer numerical controlled machining. Laboratory exercises parallel classroom topics and will provide the students with an opportunity to practice some of these manufacturing methods.

**Prerequisite- Corequisite**

Prerequisite: MET 121 Manufacturing Processes I.

Credits: 3

**Hours**

2 Class Hours, 3 Laboratory Hours;

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Improve their skills for working effectively in a team environment.
2. Be familiar with the control unit on a typical CNC machine tool to store, load and edit programs.
3. Demonstrate proficiency in CNC programming basic parts and be able to de-bug the CNC program if there is a problem.
4. Understand when and how to use looping (subprograms) in CNC programming.
5. Be knowledgeable with gear terminology, types of gears and understand how to calculate simple speed ratios.
6. Understand the fundamental types of heat treatment processes used on steel.
7. Understand the difference between expendable-mold casting processes and multiple-use mold

casting processes.

8. Understand what indexing is and where it is used in the manufacture of parts.

9. Understand the difference between Hot and Cold working processes.

## **MET 134 - Statics**

Static force systems and equilibrium, free body diagrams, trusses, graphic statics, spatial force systems, friction, centroids, Moment of Inertia.

### **Prerequisite- Corequisite**

Prerequisite: MAT 130 Applied Algebra and Trigonometry.

Credits: 3

### **Hours**

3 Class Hours;

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the nature of rigid bodies, and the fact that they represent an idealization of real bodies.
2. Understand the nature of forces and moments, and will be capable of recognizing forces and moments acting on bodies.
3. Apply the principles of static equilibrium to the analysis of structures and machines.
4. Experimentally verify the laws of friction, and be capable of applying them to a variety of cases.
5. Locate centroids and centers of gravity, and compute moments of inertia.

## **MET 164 - Quality Systems**

The total quality concepts including organizational, planning, monitoring and continuous improvement of the quality function in a business environment. Students will become familiar with the planning process including defining the process, customers' needs, process measurement, analyzing data and quality improvement methods and philosophies. Topics also covered in this course include an introduction to statistical quality control and engineering ethics.

### **Prerequisite- Corequisite**

Prerequisite: MAT 096 Elementary Algebra and Trigonometry

Credits: 2

### **Hours**

1 Class Hour, 3 Laboratory Hours;

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the concept of quality in products and services, and customer satisfaction.
2. Understand total quality management and its principles and practices in continuous process

improvement.

3. Use the mathematics of collection, organization and interpretation of data to produce graphical displays.
4. Apply the basic concepts of statistics to manufacturing processes in order to conduct, analyze and interpret quantitative data.
5. Produce control charts as a method of analysis and presentation of a particular variation in a process.
6. Use Minitab statistical software package for its wide range of data analysis and graphics capabilities.

## **MET 170 - Metallurgy**

Metallurgy of ferrous and/or non-ferrous materials. Topics to include crystalline structure, cold working, hot working, phase diagrams, strengthening mechanisms, heat treatment, mechanical testing, metallography, and metal failures. Additional topics can be added to address specific student interest. Students will receive some hands-on laboratory experience.

Credits: 3

### **Hours**

3 Class Hours

## **MET 200 - Senior Seminar**

Guest speakers, industry tours, videos, and special projects intended to make the student aware of the latest developments in the field of Mechanical Engineering Technology. Topics will include Operations Management, Ethics in Engineering, Survival Skills for Graduates, etc.

### **Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I and Program Chairperson approval.

Credits: 0

### **Hours**

2 Laboratory Hours;

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have experience developing concepts within teams.
2. Have the integration of knowledge from various academic courses.
3. Have insight into the practice of mechanical engineering technology.
4. Have a sense of the joy of technical work.

## **MET 211 - Mechanical CAD**

Introduction to Mechanical CAD. CAD command structure, screen controls, and use of menus to create, edit, and manipulate geometry for 2D and 3D models. Use of special features for the production of fully detailed layout drawings from 2D and 3D models. File management.

**Prerequisite- Corequisite**

Prerequisite: MET 116 Engineering Drawing II w/CAD or Department Chairperson approval.

Credits: 2

**Hours**

1 Class Hour, 2 Laboratory Hours;

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply technical sketching skills of parts and assembly concepts.
2. Understand Mechanical CAD as a 3D feature based associative, parametric solid modeling system for part and assembly design.
3. Have a thorough understanding of and apply the constructive solid geometry concepts and Boolean operations used in 3D modeling.
4. Demonstrate the ability to utilize CAD to create quality solid models in a timely fashion.
5. Perform basic design changes and modifications.
6. Generate detailed working drawings in a standard industrial format using the latest ASME standards.
7. Demonstrate the ability to create a model using the college's 3D modeler and its software package.

## **MET 213 - Pro/Engineer**

Use of PRO/ENGINEER to create, edit, and manipulate advanced 2D and 3D geometric entities. Use of multiple views, viewport, levels, masking and color. Use of the axes options, construction planes and offsets, along with advanced 3D modeling techniques. Applications to assemblies and descriptive geometry. Selected topics.

**Prerequisite- Corequisite**

Prerequisite: MET 116 Engineering Drawing II w/CAD or Department Chairperson approval.

Credits: 2

**Hours**

1 Class Hour, 2 Laboratory Hours;

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply technical sketching skills of parts and assembly concepts.
2. Understand PRO/ENGINEER as a 3D feature based associative, parametric solid modeling system for part and assembly design.
3. Have a thorough understanding of and apply the constructive solid geometry concepts and Boolean operations used in 3D modeling.
4. Demonstate the ability to utilize CAD to create quality solid models in a timely fashion.
5. Perform basic design changes and modifications.



6. Generate detailed working drawings in a standard industrial format using the latest ASME standards.
7. Demonstrate the ability to create a model using the college's 3D modeler and its software package.

## **MET 220 - Programming CNC Machine Tools**

An introductory course in the fundamentals and some of the advanced principles of CNC Milling/Turning. Topics to include: Introduction to NC/CNC Machinery (history, input media and tooling), New Part Production Set-up, Typical Controller Operations (store, load and edit programs) and Manual Part Programming of CNC machine tools using the industry standard "G" and "M" Codes.

### **Prerequisite- Corequisite**

Prerequisite: MET 122 Manufacturing Processes II.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours;

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Set up a CNC machine (load and touch off tools, load programs).
2. Be familiar with the controls of a typical CNC machine.
3. Program basic linear and circular part geometry.
4. Know when and how to use subprograms, cutter compensation and canned cycles.
5. Make necessary corrections to programs and machine set-up to run quality parts.

## **MET 223 - Computer Integrated Machining**

A continuation of Programming CNC Machine Tools. The emphasis of this course is on "Computer Assisted Part Programming." The course is designed to include students who have had no exposure to computer operations, but have knowledge of machine shop operations including CNC machine tools. MasterCAM and CadKey software are introduced. CAD software will be used to construct geometry database files of various parts. CAM software will be used to choose the machining process, assign tool parameters, define the tool path, give path verification, develop the post processor, and to transfer the CNC code to the CNC machine tool.

### **Prerequisite- Corequisite**

Prerequisite: MET 220 Programming CNC Machine Tools.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours;

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Create basic 2D and 3D geometry using MasterCAM X.
2. Assign toolpaths to cut parts using MasterCAM X.
3. Create programs using the MasterCAM X-Fanuc post.
4. Transfer programs to a CNC machine.
5. Operate a CNC machine.

## **MET 234 - Dynamics**

Motion and Displacement, Velocity and Acceleration, Kinematics of Linear and Curvilinear Motion, Dynamics of Linear and Curvilinear Motion, Energy, Impulse and Momentum, Kinematics of Mechanisms.

### **Prerequisite- Corequisite**

Prerequisite: MET 134 Statics.

Credits: 2

### **Hours**

1 Class Hour; 2 Laboratory Hours;

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Use mathematical and graphical techniques to analyze the motion of bodies and simple mechanisms.
2. Apply the principles of equilibrium to the analysis of the forces acting on accelerating bodies.
3. Determine the magnitudes of work, Kinetic energy, and potential energy interchanges.
4. Possess an elementary understanding of impulse and momentum, and be capable to analyzing their interchanges.

## **MET 235 - Strength of Materials**

Normal, shear, bearing, thermal, and torsional stresses and strains. Stress-strain curves. Shearing forces, bending moments, shearing stresses and deflection of beams. Columns and pressure vessels.

### **Prerequisite- Corequisite**

Prerequisite: MET 134 Statics (or CIV 124).

Credits: 3

### **Hours**

2 Class Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Calculate direct normal, shear, and bearing stresses.
2. Understand stress vs. strain graph and be able to determine yield strength, ultimate strength, and modulus of elasticity.

3. Understand design factor and be able to design a member under direct stress.
4. Design circular members under torsion and apply stress concentration factors.
5. Develop shear force and bending moment diagrams for simple and cantilever beams.
6. Apply bending stress and shear stress equations relative to beam design.
7. Operate industry standard mechanical testing machines.
8. Produce clear, concise, and accurate lab reports.

## **MET 238 - Mechanical Design**

Application of the principles of strength of materials to the design of machine elements. Design and analysis of shafts, gears, bearings, weldments, and mechanical assemblies.

### **Prerequisite- Corequisite**

Prerequisite: MET 235 Strength of Materials, and MAT 160 Applied Calculus.

Credits: 4

### **Hours**

3 Class Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the nature of combined stress, and be capable of recognizing combined stress in elements of structures and machines.
2. Design a range of machine elements (shafts, gears, bearings, etc.) based upon strength and functional requirements.
3. Consider machining, assembly, and other manufacturing requirements in the design process.
4. Have experience in the design of mechanical assemblies.
5. Integrate fluid mechanical, and thermodynamic principles into the analysis and design of machines.

## **MET 243 - Fluid Mechanics**

The study of fluid statics and dynamics. Topics include fluid forces, flow measurement, the steady flow energy equation, viscosity, laminar and turbulent flow, frictional losses, pipeline systems, introduction to turbomachinery, drag and lift.

### **Prerequisite- Corequisite**

Prerequisite: MET 134 Statics.

Credits: 3

### **Hours**

2 Class Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply the principles of equilibrium to fluid systems.
2. Design series piping systems for conditions of steady flow.
3. Select an appropriate pump for fluid-handling systems.
4. Have had experience testing pumps, fans, and piping systems as part of a team.
5. Prepare laboratory reports to the level of standard professional conventions.

## **MET 244 - Thermodynamics**

A study of the property and energy relationships in non-flow and steady flow applications. Topics include ideal gas relationships, real working substances, the first and second laws of thermodynamics, thermodynamic cycles, and available energy. The cycle concept is applied to steam power, internal combustion engines, gas turbines, refrigeration, and heat pumps. Consideration is also given to combustion analysis and heat transfer.

### **Prerequisite- Corequisite**

Prerequisite: PHY 161 Physics I and MAT 160 Applied Calculus.

Credits: 3

### **Hours**

2 Class Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the behavior of single and two-phase substances, and be capable of determining their response to thermal and mechanical energy transfers.
2. Give an elementary explanation of the First and Second Laws of Thermodynamics, and will understand the implications of these laws for technology, society, and the environment.
3. Apply the Laws of Thermodynamics to the analysis and design of heat engines and thermal devices.
4. Have had experience testing heat engines and thermal devices as part of a team.
5. Prepare laboratory reports to the level of standard professional conventions.

## **MET 252W - Engineering Materials**

Atomic bonding, crystalline and non-crystalline materials including metals, ceramics, polymers, and composites. Phase equilibria, microstructures, and strengthening and toughening mechanisms. Writing Emphasis Course.

### **Prerequisite- Corequisite**

Prerequisites: MET 235 Strength of Materials or Department Chairperson's Approval.

Credits: 4

### **Hours**



3 Class Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the composition-structure-processing-properties relationship of metals, polymers, ceramics, and composites.
2. Know the structural make-up of individual atoms and be able to predict the predominant bond type.
3. Define the atomic arrangement of crystalline material and understand the importance of crystal imperfections.
4. Have a thorough understanding of the strengthening process of strain hardening, solid solution strengthening, and dispersion of strengthening.
5. Describe the heat treating processes associated with slow cooling and quench & temper for such materials as brass, aluminum, and steel.
6. Interpret isomorphous, eutectic, and eutectoid phase diagrams.
7. Understand the statistical nature of brittle failure in ceramics.
8. Describe the structural response of polymers and FRP's to applied stresses.
9. Conduct metallographic preparation and microscopic examination of various metals.
10. Have produced clear, concise, and accurate lab reports.
11. Have completed a research paper on a materials topic and have delivered an oral report.

## **MET 298 - Cooperative Work Experience**

On-the-job experience directly related to the Mechanical Engineering Technology field. Students will have the opportunity to work in one of the following areas: Computer Aided Drawing, Computer Numerical Control Machining, Equipment Maintenance, Materials Testing, Production Control, Technical Sales, Tooling Technology, or other MET related areas. To be eligible, students must maintain at least a 2.2 GPA through their first three semesters (minimum 38 credits in the MET Program). On-the-job experience approximately 10-20 hours per week.

### **Prerequisite- Corequisite**

Prerequisite: Placement by Department Chairperson.

Credits: 1

### **Hours**

10-20 hours per week.

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Have an understanding of their field of engineering technology.
2. Have experience directly related to their field of study.
3. Have on-the-job experience and have earned some money.

## **MET 299 - Independent Study**

The student undertakes an independent project in his specialty under the guidance of a faculty member. Only one independent study course allowed per semester. Consideration may be given to a project involving a work assignment.

### **Prerequisite- Corequisite**

Prerequisite: Approval of Department Chairperson.

Credits: (2-4)

### **Hours**

Class Hours (TBD), Lab Hours (TBD)

## **MLT 110 - Introduction to Medical Laboratory Technology**

Overview of medicine and the field of Clinical Laboratory Technology. Designed to acquaint the student with the clinical laboratory and with the professional role of laboratory personnel within health care delivery system. Review of safety issues connected with the clinical laboratory, introduction to values, ethics and interpersonal communication in these settings.

Credits: 1

### **Cross-listed**

CLT 110

### **Hours**

1 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate appropriate professional behavior.
2. Identify the health care providers in hospitals and clinics and describe their academic preparation and roles on the health care team.
3. Describe the various hospital departments and their major functions.
4. Describe the organizational structure of the clinical laboratory department.
5. Discuss the roles of the clinical laboratory personnel and their qualification for these professional positions.
6. List the most common types of laboratory procedures performed in the various sections of the clinical laboratory department.
7. Describe the roles of federal and state regulations on testing in the clinical laboratory.
8. Identify policies and procedures for maintaining laboratory safety.
9. Identify and discuss the modes of transmission of infection and methods for prevention.
10. Identify and properly label biohazardous specimens.
11. Describe electrical, chemical, radiation and biological hazards and fire safety procedures used in hospitals, including the clinical lab.
12. Explain basic types of isolation and exposure control techniques.
13. Discuss in detail the standard precautions outlined by the Centers for Disease Control (CDC).
14. Discuss in detail and perform proper infection control techniques, such as hand washing, gowning, gloving, masking, and double-bagging.
15. Explain the roles of temperament and communication style in interpersonal and professional

relationships.

16. Distinguish between values and ethics.
17. Discuss and explain the importance of maintaining patient confidentiality.
18. Define professionalism and give examples of professional behavior.
19. Describe and discuss the major points of the Patient's Bill of Rights as it applies to clinical laboratory personnel.
20. List the causes of stress in the work environment and discuss the coping skills used to deal with stress in the work environment.
21. Differentiate between values and ethics.
22. Apply ethical standards to potential situations in the health care setting.
23. Explain basic concepts of communication and demonstrate professional communication.

## **MLT 120 - Medical Laboratory Techniques and Practices**

Introduction to basic skills and equipment used in the clinical laboratory. Orientation to elements of quality control, laboratory mathematics, clinical assay techniques, safety, and collection and handling of specimens for laboratory analysis.

### **Prerequisite- Corequisite**

Prerequisite: CLT 110 Introduction to Clinical Laboratory Technology or approval of the CLT advisor.

Credits: 1

### **Cross-listed**

CLT 120

### **Hours**

1 Class Hour

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify and use basic laboratory glassware.
2. Utilize appropriate medical terminology.
3. Name and demonstrate the function of the components of the compound microscope.
4. Perform common laboratory mathematical calculations.
5. Describe the types of patient specimens that are analyzed in the clinical laboratory.
6. Demonstrate understanding of requisitioning, specimen transport, and specimen processing.
7. Demonstrate understanding of quality assurance.
8. Discuss the function of hematology, chemistry, microbiology, urinalysis, immunology, and immunohematology labs in regards to: (a.) type of specimen analyzed (b.) type of testing performed.

## **MLT 200 - Histological Techniques**

An introduction to the histologic techniques used in the clinical laboratory. Course content includes preparation, fixation, embedding, sectioning, mounting, and staining of tissues for the purpose of microscopic examination. Also includes evaluation of stained tissues, preparations and identification of common cellular structures, laboratory safety and review of relevant regulations.

**Prerequisite- Corequisite**

Prerequisites: BIO 131 Human Biology I and approval of the CLT advisor.

Credits: 1

**Cross-listed**

CLT 200

**Hours**

1 Class Hour, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate a fundamental understanding of the morphology of the microscopic anatomy of the human body and correlate it with general function.
2. Relate the functions of cells, tissues, and organ systems to their structures.
3. Practice histologic techniques used in the clinical laboratory, including preparation, fixation, embedding, sectioning, mounting and staining of tissues for the purpose of microscopic examination.
4. Perform basic evaluation of quality of stained tissues preparations.
5. Identify the basic tissues, the major organs, and the cells that compose them, when shown glass slides and photomicrographs.
6. Describe variations from normal histological structure (histopathology).
7. Adhere to laboratory safety practices and regulations relevant to the clinical histology laboratory.

**MLT 201W - Hematology and Coagulation**

A comprehensive study of the hematopoietic and coagulation systems, including the normal physiology and classic pathology of both systems. Emphasis is on the theory, performance, interpretation and clinical significance of routine and special test procedures. This course is designated as a writing emphasis course.

**Prerequisite- Corequisite**

Prerequisite: BIO 131 Human Biology I and approval of the CLT advisor.

Credits: 4

**Cross-listed**

CLT 201W

**Hours**

3 Class Hours, 4 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the general principles and techniques of basic manual hematology procedures.
2. Perform a CBC on an instrument and review and interpret data from the instrument.
3. Perform peripheral blood smear differentials.
4. Describe and recognize cellular morphology changes associated with various disease states.



5. Integrate hematology panel results with other patient data through the interpretation of case studies.
6. Define the process of hemostasis, explain how the coagulation laboratory assesses it and be able to interpret the laboratory tests used in that assessment.

## **MLT 202 - Urinalysis/Body Fluids**

A study of the physiologic processes which result in the formation of urine and body fluids. Emphasis on the analysis of fluids and interpretation of the clinical significance of test results.

### **Prerequisite- Corequisite**

Prerequisite: BIO 131 Human Biology I and approval of the CLT advisor.

Credits: 1

### **Cross-listed**

CLT 202

### **Hours**

.75 Class Hours, .75 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain the collection and handling procedures for urine and body fluids.
2. Understand the observational and physical measurements of urine and body fluids required by the clinical laboratory.
3. Describe the chemical screening methods used on urine and other fluids analyzed by the urinalysis department.
4. Describe the preparation and performance of a urine microscopic analysis.
5. Identify commonly seen urinary crystals, cells and casts.
6. Identify the primary functions of the major components of the kidney and urinary tract.
7. Know the structure and function of the nephron.
8. Correlate urinalysis test data with specific disease states and state the clinical significance of test results.
9. Describe the performance and clinical significance of a CSF and other body fluid cell count.

## **MLT 204 - Fundamental Phlebotomy**

Training and experience in the practice of phlebotomy, teaching students to recognize and use blood collection equipment, practice standard precautions, and perform procedures of routine venipuncture and skin puncture.

### **Prerequisite- Corequisite**

Prerequisite: BIO 131 Human Biology I, BIO 101 Introduction to Anatomy and Physiology, or approval of the CLT advisor.

Credits: 1

### **Cross-listed**

CLT 204

**Hours**

1 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe safety measures that should be followed at all times by a phlebotomist when collecting a patient's specimen.
2. Identify the veins of the arm on which phlebotomy is performed.
3. Differentiate between serum and plasma.
4. Identify the most common additives used in blood collection, and explain their reasons for use.
5. Identify the evacuated tube color associated with the most commonly used additives.
6. List and select the types of equipment needed to collect blood by routine venipuncture and capillary puncture.
7. Identify special precautions necessary during blood collections by venipuncture and capillary puncture.
8. List the supplies that should be carried on a phlebotomist's tray.
9. Identify routine sites for venipuncture and capillary puncture.
10. Differentiate between sterile and antiseptic techniques.
11. Describe and demonstrate the steps in the preparation of a puncture site.
12. List the effects of tourniquet, hand squeezing, and heating pads on capillary puncture and venipuncture.
13. Recognize proper needle insertion and withdrawal techniques including direction, angle, depth, and aspiration.
14. Describe the correct procedure for capillary collection methods on infants and adults.
15. Name and explain frequent causes of phlebotomy complications.
16. Describe signs and symptoms of physical problems that may occur during blood collection.
17. List the steps necessary to perform a venipuncture and/or capillary puncture on chronological order.
18. Describe the proper manner for greeting and interacting with a patient.
19. Explain the major points in interviewing a patient or a patient's representative in preparation for obtaining specimens.
20. Perform a competent/effective venipuncture on a mannequin and on a patient.
21. Perform a competent/effective capillary puncture on a mannequin and on a patient.
22. Describe instructions to be given to patients in preparation for routine venipuncture or capillary puncture.
23. Describe and discuss techniques for dealing with family and visitors during the blood specimen collection.

## **MLT 206 - Immunohematology**

Introduction to the field of blood banking, including the study of the theoretical knowledge of blood groups and blood grouping, component and transfusion therapies, transfusion reactions, and allo- and auto-antibody formation. In laboratory sessions, the student performs ABO and Rh grouping, antibody identification, and compatibility testing.

**Prerequisite- Corequisite**

Prerequisite: CLT 216 Immunology or approval of the CLT advisor.

Credits: 3

**Cross-listed**

CLT 206

**Hours**

2 Class Hours, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Follow proper safety guidelines in the laboratory at all times.
2. Display appropriate professional behavior.
3. Demonstrate logical approaches to problem solving - selecting appropriate units and crossmatching them with unknown patient specimens.
4. Describe classic problems inherent to blood transfusion and the solutions currently in use.
5. Apply basic principles of genetics to immunohematology.
6. Apply basic principles of immunology to blood group serology.
7. Describe and perform the testing procedures performed in the clinical immunohematology laboratory, including Coombs' (antiglobulin) testing, ABO testing, Rh testing, other blood group testing, alloantibody screening, elutions, RBC autoantibody testing, compatibility testing, and traditional and gel technology.
8. Explain the process of donor selection, describe the processes of blood or blood component donation, including apheresis.
9. Explain the clinical significance of abnormal and disease states related to immunohematology, including drug-induced red blood cell destruction, polyagglutination, transfusion reactions, and Hemolytic Disease of the Newborn (HDN) and list the procedures relevant to each.
10. Describe and perform transfusion test procedures, including procedures related to component therapy.
11. Discuss medicolegal aspects of bloodbanking and the medicolegal responsibilities of a immunohematologist.

## **MLT 207 - Clinical Chemistry**

Designed to cover principles, analytical methods, and clinical significance of clinical chemistry as performed in the medical laboratory. The relationship of physiochemical of body function in health and disease including the renal, liver, digestive and respiratory systems. Emphasis on those clinical tests which evaluate the function of these systems related to metabolism, protein synthesis, pH, blood gases, electrolyte balance, enzymes, and hormones. Laboratory work includes the theory, operation and maintenance of the specialized and semi- and fully automated analytical instrumentation used to perform these tests. Emphasis will be placed on basic assays performed in most hospital labs, regardless of size.

**Prerequisite- Corequisite**

Prerequisite: BIO 132 Human Biologh II, CHM 146 Chemistry, and approval of the CLT advisor.

Credits: 5

**Cross-listed**

CLT 207



**Hours**

3 Class Hours, 6 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the general principles and techniques of basic manual and automated clinical chemistry procedures through performance, class discussion and examinations.
2. Correlate clinical chemistry data with normal and abnormal physiological states and identify the clinical significance of test results.
3. Perform clinical routine and special chemistry procedures within acceptable laboratory parameters.

**MLT 208 - Pathogenic Microbiology**

An introduction to microorganisms of importance in human health and disease. Topics include the morphology, isolation, and clinical significance of pathogens, the interrelationships of microorganisms and human hosts, and the prevention and control of infectious diseases. Emphasis on bacteriology; includes survey of mycology, parasitology, and virology.

**Prerequisite- Corequisite**

Prerequisite: BIO 131 Human Biology I

Corequisite: CLT 209L Pathogenic Microbiology Laboratory or CLT 210 Diagnostic Microbiology Laboratory.

Credits: 3

**Cross-listed**

CLT 208

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discuss the history of microbiology and the significance of the microbial world.
2. Describe classification systems for organisms and apply that knowledge to microorganisms.
3. Summarize the basic principles of infection and resistance and their application to transmission of infectious disease.
4. Demonstrate an understanding of the biology of microorganisms, including microbial anatomy, genetics, metabolism, growth, and control of growth.
5. Explain the mechanisms employed for control of microbial growth and describe the various assays used to evaluate effectiveness of antimicrobial agents, including antibiotic sensitivity testing.
6. List the characteristics of representative organisms of clinical significance, including their significant disease states, target populations, means of transmission, means of prevention and/or treatment, virulence factors, identifying symptoms and organismal characteristics.



## **MLT 209L - Pathogenic Microbiology Laboratory**

An overview of the basic clinical microbiology techniques, including collection and processing of clinical specimens, media used for isolation and identification of organisms common to human flora, aseptic techniques, staining procedures, susceptibility testing, and isolation techniques. This course also includes a review of the main components and functions of the human immune system.

### **Prerequisite- Corequisite**

Corequisite: CLT 208 Pathogenic Microbiology.

Credits: 3

### **Hours**

3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Follow proper safety guidelines in the microbiology laboratory at all times.
2. Demonstrate logical approaches to problem solving by identifying unknown cultures.
3. Describe the elements which comprise the immune system and summarize the mechanisms of the human immune system.
4. Discuss in general terms the biological mechanisms of immunizations, immunological screening for congenital infections, and evaluation of immune abnormalities.
5. Perform procedures in the laboratory using aseptic techniques, including selection of media, Gram staining, isolating organisms, performing biochemical and serological identifications, antimicrobial susceptibility testing, evaluating smears, and culturing and evaluating cultures of human specimens.

## **MLT 210 - Diagnostic Microbiology Laboratory**

A comprehensive study of diagnostic methods for identification of normal and pathogenic microorganisms from clinical materials by appropriate laboratory techniques. Emphasis on cultural, microscopic and biochemical characteristics, clinical significance, collecting and processing of clinical specimens, diagnostic tests, and susceptibility tests.

### **Prerequisite- Corequisite**

Corequisite: CT 208 Pathogenic Microbiology.

Credits: 3

### **Cross-listed**

CLT 210

### **Hours**

2 Class Hours, 4 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Follow proper safety guidelines in the microbiology laboratory at all times.
2. Demonstrate logical approaches to problem solving by identifying unknown cultures.
3. Perform all basic procedures generally done in the clinical microbiology laboratory using aseptic techniques, including selection of media, Gram staining, isolating organisms, performing biochemical and serological identifications, and antibicrobial susceptibility testing.
4. Evaluate cultures and direct microscopic examinations of human specimens to identify the host and microbial elements and to indicate the clinical significance of those elements.

## **MLT 214 - Specialized Phlebotomy**

Advanced techniques in collecting venous blood and capillary blood specimens. Topics include anatomy and physiology as related to specimen collection; properties of arterial blood versus venous blood; specialized collection equipment; specialized collection techniques; requisitioning, specimen transport and specimen processing, and quality assurance. Competency required in the performance of routine venipuncture and microblood drawing techniques.

### **Prerequisite- Corequisite**

Prerequisite: CLT 204 Fundamental Phlebotomy or approval of the CLT advisor.

Credits: 2

### **Cross-listed**

CLT 214

### **Hours**

2 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify parts of the body according to their proximity to one of the body planes.
2. Identify the veins of the arms, hands, legs and feet on which phlebotomy is performed.
3. Explain the functions of the major constituents of blood.
4. Define hemostasis, and explain the basic process of coagulation and fibrinolysis.
5. Discuss the properties of arterial blood versus venous blood, and describe the difference in collection methods.
6. Describe the phlebotomist's role in collecting and/or transporting types of patient specimens which are analyzed in the clinical laboratory.
7. Identify the additives used in blood collection, and explain their reasons for use.
8. Identify the evacuated tube color associated with the additives.
9. Describe substances which can interfere in clinical analysis of blood constituents and ways in which the phlebotomist can help avoid these occurrences.
10. List and select the types of equipment needed to collect blood by a variety of techniques.
11. Identify potential sites for venipuncture and capillary puncture.
12. Identify alternate venipuncture collection sites and describe the limitations and precautions of each.
13. Describe the legal and ethical importance of proper patient/sample identification.
14. Describe the types of patient specimens that are analyzed in the clinical laboratory.
15. List the general criteria for suitability of a specimen for analysis.
16. List the circumstances that would lead to recollection or rejection of a patient sample.
17. Explain the importance of timed specimens, fasting specimens, and stat specimens.

18. Demonstrate understanding of requisitioning, specimen transport and specimen processing.
19. List the most common types of laboratory procedures performed in the various sections of the clinical laboratory department.
20. Describe the system for monitoring quality assurance in the collection of blood specimens.
21. Identify policies and procedures used in the clinical laboratory to assure quality in the obtaining of blood specimens.
22. Describe the laboratory criteria for identifying an appropriate request for specimen collection.
23. Relate legal responsibilities of the laboratory and phlebotomist to the need for physicians' requests for all specimen collection and testing.
24. Explain methods for processing and transporting blood specimens for routine and special testing within the hospital.
25. Explain methods for processing and transporting blood specimens for testing at reference labs.
26. Describe potential clerical and technical errors that may occur during specimen processing.
27. In regard to processing and transporting of blood specimens, describe the general effects of time on test quality and patient care.
28. Describe the conditions that must be met if blood specimens and laboratory tests are to be used as legal evidence.
29. Describe instructions to be given to patients in preparation for glucose tolerance tests, bleeding times and other procedures normally performed by the phlebotomist.
30. Discuss the importance of appearance and grooming for phlebotomists.
31. Define the different terms used in the medicolegal aspect for phlebotomy and discuss policies and protocol designed to avoid medicolegal problems.
32. Prepare an acceptable blood smear.
33. Recognize unacceptable blood smears.
34. Describe the purpose and procedure for performing bleeding times.

## **MLT 215 - Phlebotomy Practicum**

A practical application of phlebotomy techniques in a clinical laboratory setting or health care environment. The course focuses on safety, quality control, communication, interpersonal skills, and ethical considerations relating to patients. Clinical hours: 160 total.

### **Prerequisite- Corequisite**

Prerequisite: CLT 214 Specialized Phlebotomy and approval of the CLT advisor.

Credits: 5

### **Cross-listed**

CLT 215

### **Hours**

10.6 Clinical Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Successfully complete phlebotomy practicum objectives as listed in the Phlebotomy/MLT program policy manual.
2. Perform a minimum of 100 successful unaided venipuncture collections.



3. Describe and perform the correct procedure for capillary collection methods on infants and adults.
4. Observe and describe the organization and functioning of a typical clinical laboratory.

## **MLT 216 - Immunology**

An introduction to the basic concepts in immunology, including development of the immune system, innate immunity, immunoglobulin structure and genetics, antigen-antibody reactions, the major histocompatibility complex and antigen presentation, T cell receptors, T cell activation and effector functions, anergy and apoptosis, adhesion molecules, phagocytic cell function, immune responses to infections organisms and tumors, autoimmune diseases, allergies, immune deficiencies and AIDS.

### **Prerequisite- Corequisite**

Prerequisites: BIO 131 Human Biology I and BIO 132 Human Biology II.

Credits: 3

### **Cross-listed**

BIO 216 and CLT 216

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. List the elements of the immune system and describe their roles in defense.
2. Describe the structure of immunoglobulins and discuss the mechanism for generation of antibody diversity.
3. Discuss the nature of antigens and the characteristics that contribute to immunogenicity.
4. Describe in detail the normal and abnormal functions of the human immune response, including antigen recognition by T lymphocytes, development of T and B cells, T cell-mediated immunity, immunity mediated by B cells and antibodies, innate immunity, and the complement system.
5. Explain the mechanisms and pathogenesis of disorders of the immune system, including immunodeficiencies, hypersensitivities, autoimmune disorders, and immunoproliferative abnormalities.
6. Describe clinical implications of the immune response such as immunization, transplant rejection, tumor immunity, and the immunity of pregnancy.
7. Evaluate clinical cases to apply information to assess diagnoses, symptoms, etiology, prognosis, possible treatments, and other case-related information.
8. Describe the lab tests performed used to assess immune function and status, and propose and evaluate clinical significance of appropriate laboratory testing results.

## **MLT 220L - Serological Techniques**

An introduction to the theory, practice, and clinical significance of serological testing for the clinical laboratory setting. Principles and practical applications of laboratory methods based on both traditional serological methods and molecular methods for detection and confirmation of disease.

### **Prerequisite- Corequisite**

Prerequisite: CLT 216 Immunology (or concurrently), BIO 131 Human Biology I and BIO 132 Human



## Biology II.

Credits: 1

### **Cross-listed**

CLT 220

### **Hours**

2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the mechanisms and performance of basic serological techniques and immunological assays.
2. Select the appropriate testing methodologies for evaluation of infectious disease, autoimmunity, hypersensitivity, and immune function.
3. Evaluate the clinical significance of clinical serology testing, including infectious disease, autoimmunity, hypersensitivity, and immune function.
4. Perform serological assays with the use of a written procedure, describing the methodology of each, its application in the clinical laboratory, and the clinical significance of results.
5. Follow appropriate safety procedures for each procedure performed and identify appropriate quality control results for each assay.

## **MLT 240 - Clinical Affiliation I**

Performance of procedures in clinical chemistry, immunology-serology, and immunohematology in an affiliated medical laboratory under direct supervision of medical laboratory personnel. Students will conduct routine analytical procedures, develop their laboratory skills, and apply knowledge gained in the program. Emphasis is on specimen collection and processing, quality control, preventative maintenance, laboratory safety, and significance of abnormal results. Clinical hours: 40 hr/week for 4 weeks.

### **Prerequisite- Corequisite**

Prerequisite: CLT 216 Immunology, CLT 220L Serological Techniques, CLT 206 Immunohematology, CLT 207 Clinical Chemistry and approval of the CLT advisor.

Credits: 4

### **Cross-listed**

CLT 240

### **Hours**

10.7 Clinical Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Process blood samples and other specimens for analysis.
2. Using established criteria, identify and evaluate patient specimens for acceptability, and take necessary actions if specimens are unacceptable.
3. Perform analytical tests on patient samples under the direct supervision of laboratory personnel in the relevant areas of the clinical laboratory.

4. Evaluate the clinical significance of laboratory results.
5. Recognize factors that affect procedures and results and take appropriate actions within predetermined limits.
6. State how quality control (QC) is monitored for the different procedures and instrumentation in the laboratory, how QC performance records are evaluated, and the proper corrective actions to be taken if QC values are outside established limits.
7. Perform preventive and corrective maintenance on laboratory equipment within predetermined limits.
8. List the quality assurance monitors used in each section of the laboratory.
9. Demonstrate professional conduct and interpersonal communication skills with patients, laboratory personnel and other health care personnel.
10. Demonstrate the methodologies used in technical training in the clinical laboratory at a level consistent with a new graduate.
11. Evaluate the technical training provided to students in the clinical environment.
12. Demonstrate competence in performing tests, assays, and procedures as specified in the department policy manual.

## **MLT 241 - Clinical Affiliation II**

Performance of procedures in urinalysis, body fluid analysis, phlebotomy, hematology, and coagulation in an affiliated medical laboratory under direct supervision of medical laboratory personnel. Students will conduct routine analytical procedures, develop their laboratory skills, and apply knowledge gained in the program. Emphasis is on specimen collection and processing, quality control, preventative maintenance, laboratory safety, and significance of abnormal results. Clinical hours: 40 hr/week for 4 weeks.

### **Prerequisite- Corequisite**

Prerequisite: CLT 201W Hematology and Coagulation, CLT 202 Urinalysis/Body Fluids, CLT 204 Fundamental Phlebotomy and approval of the CLT advisor.

Credits: 4

### **Hours**

10.7 Clinical Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Collect and process blood samples and other specimens for analysis.
2. Using established criteria, identify and evaluate patient specimens for acceptability, and take necessary actions if specimens are unacceptable.
3. Perform analytical tests on patient samples under the direct supervision of laboratory personnel in the relevant areas of the clinical laboratory.
4. Evaluate the clinical significance of laboratory results.
5. Recognize factors that affect procedures and results and take appropriate actions within predetermined limits.
6. State how quality control (QC) is monitored for the different procedures and instrumentation in the laboratory, how QC performance records are evaluated, and the proper corrective actions to be taken

if QC values are outside established limits.

7. Perform preventive and corrective maintenance on laboratory equipment within predetermined limits.
8. List the quality assurance monitors used in each section of the laboratory.
9. Demonstrate professional conduct and interpersonal communication skills with patients, laboratory personnel and other health care personnel.
10. Demonstrate the methodologies used in technical training in the clinical laboratory at a level consistent with a new graduate.
11. Evaluate the technical training provided to students in the clinical environment.
12. Demonstrate competence in performing tests, assays, and procedures as specified in the department policy manual.

## **MLT 242 - Clinical Affiliation III**

Performance of procedures in microbiology in an affiliated medical laboratory under direct supervision of medical laboratory personnel. Students will conduct routine analytical procedures, develop their laboratory skills, and apply knowledge gained in the program. Emphasis is on specimen collection and processing, quality control, preventative maintenance, laboratory safety, and significance of abnormal results. Clinical hours: 40 hr/week for 2 weeks.

### **Prerequisite- Corequisite**

Prerequisite: CLT 208 Pathogenic Microbiology, CLT 210 Diagnostic Microbiology Laboratory, and approval of the CLT advisor.

Credits: 2

### **Cross-listed**

CLT 242

### **Hours**

5.3 Clinical Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Process blood samples and other specimens for analysis.
2. Using established criteria, identify and evaluate patient specimens for acceptability, and take necessary actions if specimens are unacceptable.
3. Perform analytical tests on patient samples under the direct supervision of laboratory personnel in the relevant areas of the clinical laboratory.
4. Evaluate the clinical significance of laboratory results.
5. Recognize factors that affect procedures and results and take appropriate actions within predetermined limits.
6. State how quality control (QC) is monitored for the different procedures and instrumentation in the laboratory, how QC performance records are evaluated, and the proper corrective actions to be taken if QC values are outside established limits.
7. Perform preventive and corrective maintenance on laboratory equipment within predetermined limits.
8. List the quality assurance monitors used in each section of the laboratory.



9. Demonstrate professional conduct and interpersonal communication skills with patients, laboratory personnel and other health care personnel.
10. Demonstrate the methodologies used in technical training in the clinical laboratory at a level consistent with a new graduate.
11. Evaluate the technical training provided to students in the clinical environment.
12. Demonstrate competence in performing tests, assays, and procedures as specified in the department policy manual.

## **MLT 298 - Special Topics**

The study of a topic relevant to the Clinical Laboratory Technologies that is beyond the scope of the existing course offerings.

### **Prerequisite- Corequisite**

Prerequisite: Departmental approval.

Credits: (1-2)

### **Cross-listed**

CLT 298

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define core concepts in the topic content area.
2. Discuss the relevance of the special topic to the field of Clinical Laboratory Technologies.
3. Demonstrate knowledge in the specified content area.
4. Differentiate the significance of the special topic.
5. Critique contrasting perspectives on the special topic.

## **MLT 299 - Independent Study**

An individual student project concerned with advanced work in a specific area of clinical laboratory technology. Independent study is concerned with material beyond the scope and depth of courses currently offered by the department. Conducted under the direction of a faculty member with approval by the department chairperson.

### **Prerequisite- Corequisite**

Prerequisite: Departmental approval.

Credits: (1-5)

### **Cross-listed**

CLT 299

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:



1. Demonstrate the ability to work independently to achieve a goal.
2. Demonstrate proficiency in the specific area of study.

## **MUS 101 - Introduction to Music**

A survey course examining the music of the great composers representing each major period of Music History. How to listen to different forms of music such as symphonies, concertos, opera and jazz will be included in the topics covered. Emphasis on developing listening skills to bring the student to an informed awareness and understanding of great music.

Credits: 3

### **Hours**

3 Class Hours

## **MUS 105 - Music Theory I**

A beginning course in music theory, including the rudiments of music, harmonic analysis including inversions through the dominant seventh chord, passing tones and part writing in root position of all diatonic triads excluding the diminished chord.

Credits: 3

### **Hours**

3 Class Hours

## **MUS 106 - Music Theory II**

Continuation of Music Theory I including part writing of all diatonic chords in first and second inversion, harmonic analysis of all non harmonic tones including inversions of the dominant seventh chord and transposition and scoring for brass instruments.

Credits: 3

### **Hours**

3 Class Hours

## **MUS 107 - Music Theory III**

Continuation of Music Theory II including writing and analysis of the dominant seventh chord, the diminished seventh chord, applied dominants, chromatic third relationships, modulation to related and foreign keys, mode mixture, Neopolitan 6th chord, Augmented Sixth chords, analysis of form including Sonata Form, Rondo, Theme and Variations and an introduction to Species Counterpoint.

Credits: 3

**Hours**

3 Class Hours

**MUS 108 - History of Music: Renaissance to 1800**

Students will develop an understanding of music from the Middle Ages through 1800 A.D. Active listening and discussion of the important historical and cultural influences and the development of music during the Medieval, Renaissance, Baroque and Classical Periods will be examined.

Credits: 3

**Hours**

3 Class Hours

**MUS 109 - Ragtime to rock: American Popular Music**

A survey of American popular music including folk songs, musical theater, jazz, country, rock, and bluegrass. This course will familiarize the student with popular music which helped shape the American culture and reflect important social, historical and political events.

Credits: 3

**Hours**

3 Class Hours

**MUS 111 - 19th Century Music**

Important musicians and musical styles of the Romantic Period. Emphasis on developments in piano literature, the symphony orchestra and opera. Listening to selected recordings and attendance at local concerts.

**Prerequisite- Corequisite**

Prerequisite: MUS 101-Introduction to Music or permission of the instructor.

Credits: 3

**Hours**

3 Class Hours;

**MUS 112 - 20th Century Music**

Important musicians and musical styles of the 20th century. Emphasis on the trends and development of music in America. Leading European composers.

**Prerequisite- Corequisite**

Prerequisite: MUS 101 Introduction to Music or consent of instructor.

Credits: 3

**Hours**

3 Class Hours;

## **MUS 114 - History of Opera**

A survey of the various styles of opera from the 17th through the 20th centuries. Emphasis on the works of master composers - Monteverdi, Mozart, Verdi and Wagner; impact of opera on music history; social and cultural contents of opera.

**Prerequisite- Corequisite**

Prerequisite: MUS 101 or permission of instructor.

Credits: 3

**Hours**

3 Class Hours

## **MUS 115 - Ear Training I**

Aural training in melodic dictation and sight singing in two clefs. Also discrimination of intervals needed to sight read music.

Credits: 1

**Hours**

2 Studio Hours

## **MUS 116 - Ear Training II**

A continuation of MUS 115-Ear Training I. Emphasizes dictation in two parts in various clefs and further develops interval and rhythmic discrimination.

**Prerequisite- Corequisite**

Prerequisite: MUS 115-Ear Training I.

Credits: 1

**Hours**

2 Studio Hours;

## **MUS 117 - Ear Training III**

A continuation of MUS 116-Ear Training II. Will stress the development of dictation in three parts, modulation, and sightsinging.

**Prerequisite- Corequisite**

Prerequisite: MUS 116-Ear Training II.

Credits: 1

**Hours**

2 Studio Hours;

## **MUS 120 - Piano Class I**

Group piano lessons are given which will allow students the opportunity to develop basic piano skills and develop proper technique on the instrument.

Credits: 1

**Hours**

1 Studio Hour

## **MUS 121 - Piano Class II**

This course is a continuation of Piano Class I and further develops the necessary piano skills required to perform elementary to intermediate piano literature.

**Prerequisite- Corequisite**

Prerequisite: MUS 120 Piano Class I.

Credits: 1

**Hours**

1 Studio Hour

## **MUS 160 - Sound Engineering I**

An introduction to the basic principles of acoustics, mixer formats, patch bays, decibels, equalization, reverberation, tape recorders, mixing consoles, microphones, and tape editing.

**Prerequisite- Corequisite**

Co-requisites: MUS 105 Music Theory I, MUS 120 Piano Class I.

Credits: 3

**Hours**

2 Studio Hours, 2 Lecture Hours;



## **MUS 161 - Sound Engineering II**

An introduction to MIDI systems and applications. Students will develop an understanding of the history and evolution of MIDI, as well as the hardware requirements involving channels and modes. Implementation of MIDI applications in the studio environment using the KORG Triton keyboard is explored.

### **Prerequisite- Corequisite**

Prerequisites: MUS 160 Sound Engineering I, MUS 105 Music Theory I, MUS 120 Piano Class I.

Credits: 3

### **Hours**

2 Studio Hours, 2 Lecture Hours;

## **MUS 170 - Music and Computers**

A hands-on introduction to how computers assist in music notation, music sequencing, and MIDI data entry. Topics include: audio synthesis, midi and audio editing, audio recording, creating a publisher ready score and Finale note entry and sequencing. A strong understanding of music notation is required. Music Theory I is recommended but not necessary.

Credits: 3

### **Hours**

3 Class Hours

## **MUS 180 - Jazz Improvisation**

Basic concepts of soloing in the jazz idiom for instrumentalists. Teach students to interpret chord symbols and understand the sounds that they represent in a meaningful way to create a jazz solo with their instrument.

### **Prerequisite- Corequisite**

Prerequisite: MUS 105 Music Theory I or permission of instructor; May be repeated for credit once.

Credits: 2

### **Hours**

1 Class Hour, 3 Studio Hours, 2 Lecture Hours;

### **Note**

Attendance at jazz concerts required.

## **MUS 183 - Lead and Blues Guitar Playing**

Guitarists are presented with techniques for soloing within the "blues" style. Various scales, modes, arpeggios, and chording techniques are applied to the basic "blues" chord progression as soloing

concepts are developed. Guitarists should be intermediate players and have a fundamental knowledge of music theory.

Credits: 3

### **MUS 184 - Songwriting**

An introduction to the process of creating and marketing an original song that is suitable for recording and publication. Topics include: chord progressions, hooks, style, form, melody, introductions and endings, demos, copyright, marketing and music publishing. Music Theory I is highly recommended for this course but not necessary if a student has a basic understanding of music fundamentals.

Credits: 3

### **MUS 185 - Beginning Guitar**

Emphasis on Music Fundamentals, scales, chords, reading rhythms and learning to accompany singers. Students must own their own instruments.

Credits: 1

#### **Hours**

2 Studio Hours

### **MUS 186 - Guitar Ensemble**

Provide students the opportunity to perform music for the guitar in a group setting. Emphasis will be on group and individual playing. The music played will be chosen with respect to the historical literature available.

Credits: 1

#### **Hours**

2 Studio Hours;

#### **Note**

May be repeated for credit 3 times.

### **MUS 187 - The Guitar: Its History and Music**

The development of the physical and musical history of the instrument is presented through live performances and recordings. The history of the guitar and its importance relative to composers and performers throughout music history will be identified.

Credits: 3

**Hours**

3 Class Hours

**MUS 188 - Practical Music Theory for the Performing Musician**

Designed to help the novice performer of music understand key signatures, scales, rhythms, chords, form intervals, transposition, notation and sight reading. Emphasis on fundamentals of music and practical application of what is learned.

Credits: 3

**Hours**

3 Class Hours

**MUS 189 - Flute Ensemble**

Credits: 1

**Hours**

2 Studio Hours

**Note**

May be repeated 3 times for credit.

**MUS 190 - The College Choir**

Students who sing in the College Choir receive one credit per semester.

Credits: 1

**Hours**

3 Studio Hours

**Note**

(May be repeated 3 times for credit.)

**MUS 191 - Music Performance**

Students develop basic performance and musicianship skills by participating in recitals, concerts or approved music classes associated with Broome Community College's Music Performance groups and music program.

Credits: 1

**Note**

May be repeated 3 times for credit.

## **MUS 192 - Woodwind Ensemble**

Credits: 1

**Note**

May be repeated 3 times.

## **MUS 193 - Brass Ensemble**

Credits: 1

**Note**

May be repeated 3 times.

## **MUS 194 - Voice Class I**

Provides any student the opportunity to learn correct vocal production, breath control, diction, articulation and musical interpretation of art songs. Emphasis is on tonal production and group and individual singing.

Credits: 1

**Hours**

2 Studio Hours

## **MUS 195 - Jazz Ensemble**

By audition only.

Credits: 1

**Note**

May be repeated 3 times.

## **MUS 196 - String Ensemble**

(Not for guitarist.)

Credits: 1

**Note**

May be repeated 3 times.

## **MUS 197 - Applied Music I**



For students in their first semester. To enable instrumental and vocal students to study privately with a teacher and develop their musical performance abilities. Not a course for beginners. A minimum of 15 lessons required per semester. Cost of lessons not included in BCC tuition.

Credits: 1

**Hours**

2 Studio Hours

## **MUS 198 - Applied Music II**

Continuation of MUS 197 Applied Music I, for second semester students. A minimum of 15 lessons required per semester and continued musical growth and maturity in solo and ensemble performance is expected. Cost of lessons not included in BCC tuition.

**Prerequisite- Corequisite**

Prerequisite: MUS 197 Applied Music I.

Credits: 1

**Hours**

2 Studio Hours;

## **MUS 199 - Intermediate Guitar**

Continuation of beginning guitar. Emphasis on picking techniques, fingerings, chords, music readings and performance. There will also be a greater emphasis on technique.

**Prerequisite- Corequisite**

Prerequisite: MUS 185 Beginning Guitar.

Credits: 1

**Hours**

2 Studio Hours;

## **MUS 201 - College Band**

College band is required of all woodwind, brass and percussion majors and open to the campus community. The band performs two major concerts during the year as well as providing music for various college functions. Membership is by audition.

Credits: 1

**Hours**

3 Studio Hours.

**Note**

May be repeated three times.

## **MUS 260 - Sound Engineering III**

This course is part three of the four-semester sequence in Sound Engineering. Introduction to the techniques of engineering and supervising a recording session using the Pro Tools sound recording system is presented. The course focuses on how to: organize a recording session, record midi data, produce a song and/or sound track, organize a session and integrate proper effects into recording projects.

### **Prerequisite- Corequisite**

Prerequisites: MUS 160 Sound Engineering I and MUS 161 Sound Engineering II.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Know how to conduct a recording session.
2. Correctly select and place microphone(s) with a vocalist or instrumentalist to achieve the maximum interface with Pro Tools.
3. Correctly label vocal and instrumental recording tracks.
4. Assign inputs and outputs.
5. Assign "Effects" to specific channels in Pro Tools using the "Diamond Bundle."
6. Create "Auxiliary Channels" and "Master Tracks."
7. Successfully record a small ensemble and prepare the digital tracks for advanced sound editing and mixing techniques.

## **MUS 261 - Sound Engineering IV**

This course is part four of the four-semester sequence in Sound Engineering. Students are instructed in the techniques of engineering and supervising recording sessions involving large and small music ensembles of varying musical genres.

### **Prerequisite- Corequisite**

Prerequisite: MUS III Sound Engineering III.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Know how to record small and large musical ensembles.
2. Know the different requirements needed to record various styles of music such as classical, rock, jazz and folk.

3. Use advanced production, editing and recording techniques with the Pro Tools system.
4. Arrange, produce and mix an independently recorded project.

## **MUS 294 - Voice Class II**

Continuation of Voice Class I and for students who have performed in high school musicals, chorus and/ or those who have studied privately. This is a group situation in which vocal literature appropriate to individual and group singing will be sung.

### **Prerequisite- Corequisite**

Prerequisite: MUS 194 Voice Class I or permission of instructor.

Credits: 1

### **Hours**

2 Studio Hours;

## **MUS 297 - Applied Music III**

Continuation of MUS 198 Applied Music II, for third semester students.

### **Prerequisite- Corequisite**

Prerequisite: MUS 198 Applied Music II.

Credits: 1

### **Hours**

2 Studio Hours;

## **MUS 298 - Applied Music IV**

Continuation of MUS 197 Applied Music III, for fourth semester students.

### **Prerequisite- Corequisite**

Prerequisite: MUS 297 Applied Music III.

Credits: 1

### **Hours**

2 Studio Hours;

## **MUS 299 - Independent Study: Music**

An individual student project concerned with advanced work in a specific area of music. Conducted under the direction of a faculty member, independent study is concerned with material beyond the

scope and depth of the ordinary course.

**Prerequisite- Corequisite**

Prerequisite: 3 semester hours of college level work in music.

Credits: (1-3)

**PED 100 - Archery**

Fundamentals of shooting - seven-step approach. Proper target shooting technique and form stressed.

Credits: (1/2)

**Hours**

4 Class Hours, 11 Laboratory Hours per semester.

**PED 103 - Backpacking (CV)**

A series of laboratories and lectures culminating in a four-day mandatory backpacking trip. Students learn to select, care for, and properly use the essential equipment, as well as some low-cost alternatives to expensive items. The stress is on safety and low ecological impact camping.

Credits: 1

**Hours**

15 Class Hours, 15 Laboratory Hours per half semester.

**Note**

CV=cardiovascular

**PED 106 - Badminton (CV)**

Instruction and practice in the various strokes. Rules, terminology and equipment. Strategy for singles and doubles.

Credits: (1/2)

**Hours**

4 Class Hours, 11 Laboratory Hours per half semester.

**Note**

CV=cardiovascular

**PED 107 - Ballet I (CV)**

Beginning Ballet will introduce students to the basic elements of classical ballet in ballet technique classes.



Credits: 1

**Hours**

8 Class Hours, 22 Laboratory Hours.

**Note**

CV=cardiovascular

## **PED 110 - Basic Ice Skating (CV)**

A course in basic ice skating technique that moves from less difficult to more difficult performance skating sequences. Students will undergo an assessment of skills at the beginning of the course and will be given instructions and practice time for improvement of skills. Speed of performance as well as execution will be stressed. Will fulfill the C-V requirement. Students will need to bring skates or rent them from the BCC Rink where the course is taught.

Credits: 1

**Hours**

8 Class Hours, 22 Job Hours, 1 Credit.

**Note**

CV=cardiovascular

## **PED 112 - Bowling**

Bowling fundamentals including ball selection, grip, stance, approach and delivery. Etiquette, scoring, correction of basic mistakes in delivery. Classes are at off-campus site and students must pay for own games, shoe rental and transportation.

Credits: (1/2)

**Hours**

3 Class Hours, 12 Laboratory Hours per half semester.

## **PED 118 - Personal Fitness (CV)**

Students participate in an individualized fitness program. Each student will be tested for fitness levels in cardio-respiratory, muscle strength and endurance, flexibility and body composition. Results of the profile will help determine a workout routine for classroom activity. Discussions on chapter topics and tests will assist students in making healthy lifestyle choices.

Credits: 1

**Hours**

8 Class Hours, 22 Laboratory Hours.

**Note**

CV=cardiovascular

## **PED 119 - Personal Fitness (CV)**

Students participate in an individualized fitness program. Each student will be tested for fitness levels in cardio-respiratory, muscle strength and endurance, flexibility and body composition. Results of the profile will help determine a workout routine for classroom activity. Discussions on chapter topics and tests will assist students in making healthy lifestyle choices. PED 119 has one more hour of activity than PED 118, and more emphasis on taking command by making healthy decisions about workouts. There is usually an improvement grade built in for motivational purposes.

Credits: (1-1/2)

### **Hours**

12 Class Hours, 33 Laboratory Hours.

### **Note**

CV=cardiovascular

## **PED 120 - Foundations of Exercise**

A Lab/Lecture course designed for students interested in a career in exercise supervision and instruction. The many components of Fitness will be thoroughly discussed in relationship to health, wellness, and athletic attributes. Students will learn the principles of exercise (Overload Principle) and apply them in a safe and healthy manner. Each student will lead the rest of the class in a activity that will lead to improvement in some aspect of fitness, with evaluation of the exercise a main focus.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours.

## **PED 121 - Golf**

Basic skills, etiquette and strategy. Student required to play nine holes (fee required) and hit at a driving range, providing their own transportation. Clubs provided for those without. For the beginning golfer.

Credits: (1/2)

### **Hours**

4 Class Hours, 11 Laboratory Hours per half semester.

## **PED 122 - Horsemanship**

Basics of grooming, saddling and safety procedures. Development and expansion of riding skills. Elementary knowledge of horses, their care and maintenance. Two options available: 1. English. 2. Western. (Additional fee and taught off campus.)

Credits: 1

**Hours**

8 Class Hours, 22 Laboratory Hours per semester.

## **PED 127 - Jogging (CV)**

Jogging as a possible leisure time activity. Physiological benefits, improvement of technique and basic principles of training. Individual works at own level and sets own goals. Distance usually worked: 2 miles.

Credits: (1/2)

**Hours**

3 Class Hours, 12 Laboratory Hours per semester.

**Note**

CV=cardiovascular

## **PED 130 - Karate (CV)**

Classical karate on the beginning and intermediate levels. Philosophy and brief history of karate. Basic kata (forms) together with self-defense and prearranged sparring techniques. Free sparring with no body contact. Emphasis is on physical conditioning and mental discipline.

Credits: 1

**Hours**

8 Class Hours, 22 Laboratory Hours per semester.

**Note**

CV=cardiovascular

## **PED 135 - Jazz Dance I (CV)**

Jazz dance technique through practical skill work, jazz styles and dance combinations.

Credits: 1

**Hours**

8 Class Hours, 22 Laboratory Hours per semester.

**Note**

CV=cardiovascular

## **PED 137 - Jazz Dance II (CV)**

A continuation of Jazz Dance I, emphasizing jazz dance techniques through practical skill work.

**Prerequisite- Corequisite**

Prerequisite: PED 135 or previous dance experience.

Credits: 1

**Hours**

8 Class Hours, 22 Laboratory Hours per semester;

**Note**

CV=cardiovascular

## **PED 139 - Self-Defense**

Approximately 10 basic self-defense movements which, if properly acquired and practiced, can be applicable to many situations. Basic techniques of blocking, falling, punching and general body shifting motions. Dress should be comfortable. Although this is not the formal karate class, the class will be conducted with formality and discipline.

Credits: (1/2)

**Hours**

3 Class Hours, 12 Laboratory Hours per semester.

## **PED 140 - Dance Pilates**

A cardiovascular course designed to use techniques that build the core musculature of the body. Aerobic dance routines will be utilized to increase the activity levels to a point where fitness will increase. This is an active, participatory course.

Credits: 1

**Hours**

2 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate proper breathing techniques.
2. Identify a series of appropriate warming up exercises.
3. Perform correct maneuvers and sequence of exercises that strengthen muscles and increase flexibility and cardiovascular function.
4. Recognize when over-exertion and overuse can occur and take steps to avoid injury.
5. Show how to go through a proper cool down.

## **PED 143 - Cross-Country Skiing (CV)**



Instruction and practice in cross-country skiing - beginning through advanced. Conduct, terminology, safety and equipment. Classes both on and off campus. Skis, poles, boots, and bindings provided.

Credits: (1/2)

**Hours**

3 Class Hours, 12 Laboratory Hours per semester.

**Note**

CV=cardiovascular

## **PED 144 - Aerobics (CV)**

A low impact, high energy cardiovascular program done with a music background. Floor aerobics, step aerobics, body toning, and resistance bands included. Open to both men and women.

Credits: (1 1/2)

**Hours**

12 Class Hours; 33 Laboratory Hours.

**Note**

CV=cardiovascular

## **PED 146 - Aerobics (CV)**

A low impact, high energy cardiovascular program done with a music background. Floor aerobics, step aerobics, body toning, and resistance bands included. Open to both men and women.

Credits: 1

**Hours**

8 Class Hours, 22 Laboratory Hours per semester.

**Note**

CV=cardiovascular

## **PED 147 - Soccer (Women) (CV)**

Credits: (1/2)

**Note**

CV=cardiovascular

## **PED 148 - Soccer (Men) (CV)**

Instruction and practice in the fundamental skills of kicking, tackling, trapping, dribbling and heading. Rules and tactics. Team competition. Separate sections for men and women.

Credits: (1/2)

**Hours**

4 Class Hours, 11 Laboratory Hours per half semester.

**Note**

CV=cardiovascular

## **PED 149 - Snorkeling**

Designed to teach the swimmer the techniques of snorkeling, safety equipment selection and skills. Offered to student taking Tropical Ecology during intersession.

Credits: 1

**Hours**

8 Class Hours, 22 Laboratory Hours per semester.

## **PED 150 - Personal Nutrition**

Students will learn the basic principals of good nutrition; how energy nutrients work within their body and how they can use nutrition to improve their overall health. They will also be able to utilize this information to decipher the current nutrition recommendations being addressed in the media.

Credits: 1

**Hours**

15 Class Hours

## **PED 155 - Trim and Tone (CV)**

A course designed for people seriously interested and committed to changing their body composition. This class requires daily attendance for activity and instruction on weight loss, diet, nutrition, muscle strength, and toning. Workout clothing including sweat suits or shorts and T-shirt are required as well as a good pair of gym shoes.

Credits: 2

**Hours**

1 lecture, 4 Laboratory Hours.

**Note**

CV=cardiovascular

## **PED 168 - Exploring Healthy Lifestyles**

This course is a theoretical classroom approach to assessing and evaluating healthy pathways in life. Students will explore and analyze the components of diet and exercise that can be chosen which may

lead to a happier and healthier life. Emphasis is placed on making educated decisions and using the self-motivation and discipline necessary to make changes leading to a more active healthy lifestyle.

Credits: 1  
**Hours**  
15 Class Hours

**PED 169 - Tennis (CV)**

Instruction and practice in the basic strokes - forehand, backhand, serve and volley. Rules, terminology and equipment. Strategy for singles and doubles.

Credits: (1/2)  
**Hours**  
4 Class Hours, 11 Laboratory Hours per half semester.  
**Note**  
CV=cardiovascular

**PED 170 - Trail Riding**

Basics of grooming, saddling, and safety procedures. Development and expansion of riding skills - learning to cope with natural hazards like creeks, traffic, terrain. Elementary knowledge of horses, their care and maintenance.

Credits: (1/2)  
**Hours**  
4 Class Hours, 11 Laboratory Hours per half semester  
**Note**  
(Taught off campus and an additional fee is required.)

**PED 171 - Physiology of Exercise**

Effect of exercise on cardiovascular and respiratory systems. Components of fitness, principles of training along with training prescriptions. Energy supply systems discussed. Effective nutrition, ergogeniaids and environmental factors.

Credits: 1  
**Hours**  
15 Class Hours

**PED 172 - Volleyball (CV)**

A basic course in the fundamentals of power volleyball. Team strategy, history and rules. Drills and competitive play.

Credits: (1/2)

**Hours**

4 Class Hours, 12 Laboratory Hours per half semester.

**Note**

CV=cardiovascular

### **PED 173 - Fitness Walking (CV)**

Fitness Walking is a safe form of aerobic exercise which can be incorporated into one's life style and individual fitness program. Proper shoes and foul weather gear is needed.

Credits: (1-1/2)

**Hours**

12 Class Hours, 33 Laboratory Hours.

**Note**

CV=cardiovascular

### **PED 175 - Weight Training**

Introduction to the Universal Gym and free weights as a means of physical conditioning. Components of fitness and principles of training discussed. Several strength building prescriptions presented, including free weights.

Credits: (1/2)

**Hours**

3 Class Hours, 12 Laboratory Hours per half semester.

### **PED 299 - Independent Study**

Student undertakes a project of own choice with guidance from faculty member. The project is intended for a student who has completed requirements.

**Prerequisite- Corequisite**

Prerequisite: 2 Semester Hours in Physical Education.

Credits: (1/2 or 1)

### **PHI 102 - General Philosophy**



This course introduces philosophy by examining some of its major areas, including metaphysics (theories concerning the nature of reality), epistemology (theories concerning the nature of human knowledge), ethics (theories of morality), and logic.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the major areas of study in philosophy.
2. Describe some of the major theories of metaphysics in Western philosophy.
3. Describe some of the major theories of epistemology in Western philosophy.
4. Describe some of the major ethical theories in Western philosophy.
5. Demonstrate an understanding of the fundamental conventions of philosophical argument.

## **PHI 104 - Philosophy of Religion**

An examination of the relationship between Religion and philosophy and an investigation of the different concepts of God. An Analysis of religion's types and experiences, and a review of the different attempts to justify religious beliefs. An exploration of the logic of religious experience through a consideration of the leading ideas in the philosophy of religion both as a historical and contemporary phenomenon.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the general scope of the philosophy of religion.
2. Identify some of the major approaches to the philosophy of religion.
3. Describe some of the major theories regarding the existence of God.
4. Identify some of the major philosophical problems having to do with the relationship of religion to other areas of thought.
5. Demonstrate an understanding of the fundamental conventions of argument in the philosophy of religion.

## **PHI 105 - World Religions**

A survey of the major world religious traditions, including Hinduism, Buddhism, Confucianism, Judaism, Christianity, and Islam. The origins, major historical developments, socio-cultural influences, and core beliefs and practices of each tradition will be studied. The instructor may choose to include other traditions as well.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Demonstrate an understanding of some of the concepts and methods of the comparative study of religion.
2. Apply those concepts and methods in order to think critically about religious history, doctrines, and practices.
3. Express a broad understanding of the major religions of the world.
4. Demonstrate an understanding of ideas that will help them to communicate more effectively with people of diverse cultural backgrounds and to understand global developments related to religion in the contemporary world.

## **PHI 201 - Ethics: Moral Philosophy**

An examination of the main classical and modern ethical theories, including those of such theorists as Plato, Aristotle, Mill, Kant, and Moore. A comparison and contrast of normative and meta-ethical theories, the good life and how one should act, the meaning of moral judgments and the criteria of validity and the justification of moral beliefs and the ground of moral responsibility.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the general scope of moral philosophy.
2. Identify some of the major classical theories in moral philosophy.
3. Identify some of the major contemporary perspectives on moral philosophy.
4. Demonstrate an understanding of the fundamental conventions of argument in moral philosophy.

## **PHI 202 - Logic**

Analysis and practical application of the elements of logic as they apply on both a linguistic and formal level. Forms of argument; informal and formal fallacies. Determining validity and invalidity under Aristotelian, propositional, and predicate logic. Use of Venn diagrams; translating ordinary language into syntax appropriate to those logical systems.

**Prerequisite- Corequisite**

Prerequisite: MAT 136 College Algebra and Trigonometry or equivalent.

Credits: 3

**Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Distinguish between deductive and inductive arguments.
2. Identify a valid, sound argument and a strong, cogent argument.
3. Identify at least a dozen types of informal fallacies in written arguments.
4. Identify and write categorical propositions.
5. Determine the validity of immediate inferences involving categorical propositions.
6. Determine the mood and figure of a categorical syllogism.
7. Determine the validity of syllogisms using the Square of Opposition.
8. Determine the validity of syllogisms using Venn diagrams.
9. Determine the validity of enthymemes.
10. Translate ordinary language arguments into syllogisms in order to analyze them logically.
11. Translate ordinary language statements into propositional logic.
12. Analyze an argument by means of truth tables.
13. Analyze an argument using indirect truth tables.
14. Translate paragraphs into propositional logic symbolism.
15. Apply the 18 laws of natural deduction to determine the validity of arguments in propositional logic.
16. Use indirect truth to determine validity of arguments in propositional logic.
17. Use conditional proof to determine validity of arguments in propositional logic.
18. Use existential and universal quantifiers in correct syntax for predicate logic.
19. Translate ordinary language statements in predicate logic formulas.
20. Apply the 18 laws of natural deduction to determine validity of arguments in predicate logic.
21. Apply the change of quantifier rules to arguments in predicate logic.
22. Use the counter-example method to prove invalidity in predicate logic.
23. Use the finite universe method to prove invalidity in predicate logic.
24. Correctly translate relational predicates with quantifiers.

## **PHI 203 - Philosophical Issues in American Education**

Philosophy of selected American educators, with attention on the historical development of the American educational system. Brief review of educational outlooks from antiquity to the present, including Plato, Aristotle, Rousseau. Analysis of educational issues and of key terms in education from philosophical perspective. The nature of the individual, the school and society and the underlying philosophical interrelations that may exist.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Trace the philosophy of education in American schooling.
2. Identify the historical importance of the philosophy of education in American education.
3. Explain the individual philosophies of the major educational philosophers and their impact on

American schooling.

4. Develop their own philosophy of education.
5. Explore major educational trends in American schooling.
6. Identify the philosophies that influence educational reform in American schooling.
7. Evaluate the impact that philosophies of education have had on American schooling.
8. Analyze and evaluate the success of America's educational reform movements.
9. Identify current American educational policy.
10. Interpret current American educational policy.
11. Evaluate the success of American education policy in the nation's schools.

## **PHI 206 - Social and Political Philosophy**

A philosophical study of the social/political organization of society through an examination of such topics as justice, authority, leadership, individual rights, and of the relationship between the state and various social institutions, such as family, business, church, and education.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the scope of social and political philosophy.
2. Identify some of the major classical theories of social and political philosophy.
3. Identify some of the modern theories of social and political philosophy.
4. Demonstrate an understanding of the fundamental conventions of argument in social and political philosophy.

## **PHI 299 - Independent Study: Philosophy**

An individual student project concerned with advanced work in a specific area of philosophy. Conducted under the direction of a faculty member, the independent study is concerned with material beyond the scope and depth of ordinary course.

### **Prerequisite- Corequisite**

Prerequisite: 3 semester hours of college level work in philosophy.

Credits: (1-3)

### **Course Profile**

Learning Outcomes of the Course:

Course outcomes will be determined by the instructor with the consent of the department chair and Dean of Liberal Arts.



## **PHS 111 - Earth Investigations**

Investigate Earth's atmosphere, its geology and its place in the solar system. Topics of study may include the ways rivers and glaciers change Earth through erosion and the effects of plate tectonics in causing earthquakes and volcanoes. You will discover how weather and/or geology affect our everyday lives and how we use and modify our physical surroundings. Current scientific topics may be introduced by both students and instructors. Binghamton's regional weather and geology will be emphasized. Laboratory activities, including a field trip are included in this course. This course does not meet science requirement for LAAA, LAAS or BAAS degree.

Credits: 3

### **Hours**

2 Class Hours, 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain the origin, classification and the physical properties used to identify minerals.
2. Using physical properties, identify the more common minerals.
3. Describe the origin and classification of the three rock groups.
4. Using some common properties, as well as other characteristics, identify the more common rocks in the three rock groups.
5. Explain how rocks and minerals are broken down both physically and chemically.
6. Explain how weathering and erosion of rocks of various types results in different landforms in different parts of the world.
7. Describe how the movement of the earth and the tilt of the earth's axis of rotation effects the amount and intensity of sunlight which reaches the earth and in turn how the large water bodies, soil and rocks influence the amount of solar radiation that is turned into atmospheric heat.
8. Describe how moisture effects the temperature of the atmosphere and the amount of light in the atmosphere.
9. Explain the various weather features such as high and low pressure cells, warm and cold fronts, and the weather associated with the cells and fronts.
10. Explain the similarities and differences between types of storms such as hurricanes and tornadoes and how thunder and lightning occur.
11. Explain the differences between type of condensation and precipitation such as rain, hail, sleet, fog and dew.
12. Differentiate between the various types of planetary motions, how these motions are determined and how they affect life on earth.
13. Explain lunar motion, tidal effect of the moon on the earth, and the formation of lunar and solar eclipses.
14. List the members of our solar system, their main characteristics, and theories concerning origin.
15. Describe the cause and results of earthquakes.
16. Describe the Plate Tectonic theory and give evidence supporting this theory.
17. Discuss modern problems facing mankind and his environment.

## **PHS 112 - Investigations of the Natural World**

Explore the relationships between living organisms and their physical environment in this activity-based course. Study Earth's atmosphere and seasons and explore the resulting adaptations of living

things, for example through photosynthesis and respiration. Investigate rocks and minerals as the building blocks of the solid Earth and cells as the basic unit of life. Biologic and earth science concepts are integrated to show the prehistoric and modern interactions among Earth's atmosphere, its rocks and minerals and its life. Students are expected to become personally involved with in-class and at-home activities and projects. Learning is accomplished by experimentation and discussion within cooperative groups; the laboratory becomes the classroom. Appropriate for Elementary Education and Early Childhood majors.

Credits: 4

#### **Hours**

3 Class Hours; 3 Lab Hours

#### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Distinguish among the following: theory, hypothesis, inference, observation.
2. Formulate hypotheses about phenomena under discussion; design and perform simple experiments to test the hypothesis; analyze and interpret data from the experiment to support or refute the hypothesis.
3. Describe the components and organization of our solar system and understand the scale of planetary distances and sizes in our solar system.
4. Describe some major conditions necessary to develop and sustain life on an astronomical body.
5. Plot a scale diagram of Earth's geologic history and recognize the interdependence of geologic, meteorologic and biologic events along this time line.
6. Describe and demonstrate the changes in daylight during a year and explain the reasons for these changes; describe adaptations of organisms to daylight and darkness and to seasons.
7. Describe the temperature and pressure characteristics of Earth's atmosphere and list its component gases and their major functions.
8. Distinguish between the processes of photosynthesis and respiration and describe simple experiments which can demonstrate each process.
9. Describe how heat is transferred within and to the atmosphere and to Earth's surface; describe major factors which affect the heating of Earth's surface.
10. Describe and perform the main physical tests and observations necessary to identify rocks and minerals.
11. Distinguish between plant and animal cells and describe the main components of both.
12. Discuss the evolution of Earth in terms of biologic change and in terms of plate tectonics.
13. Complete projects to investigate characteristics of plants and animals.

## **PHS 113 - Astronomy - Exploring the Universe**

Exploring the universe is an exciting challenge as you are led away from earth on a journey through the cosmos and back again. Starting with a look at the historical origin of the constellations and a basic knowledge of the sky, you are taken into the realm of the stars, galaxies, and the universe at large. Current theories of the birth, life, and death of stars will show you the possibilities of extraterrestrial life. Theories of the origin of the universe will give you an informed opinion of the nature of existence itself. The return trip to earth brings you a look at our solar system with the NASA provided knowledge of the planets. Extensive hands-on experience is generated in the laboratory, which makes full use of the off-campus Link Planetarium and Kopernik Observatory.

Credits: 4

**Hours**

3 Class Hours, 3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain the motion of the planets, Sun, and stars in the sky as seen from different locations on Earth.
2. Describe the motion of the Moon and how it creates tides and eclipses.
3. Describe the development of astronomical theories and models, from early Greek observations through the Copernican revolution to modern day.
4. Use and understand the underlying concepts of astronomical tools such as telescopes, spectrometers, and star charts.
5. List the members of the solar system, describe their characteristics, and explain theories concerning their information.
6. Explain the structure of the Sun, the production of solar energy, and the interaction of the Sun with the Earth.
7. Explain the methods used to measure stellar distances, masses, luminosities, diameters, densities, and populations.
8. Explain stellar evolution from cloud collapse through main sequence lifetime to compact object creation.
9. Describe the structure, formation, and evolution of the Milky Way and other galaxies, including active galaxies.
10. Describe the universe and its evolution in the Big Bang model.

## **PHS 114 - Meteorology: Investigating the Weather**

Does Binghamton have some of the worst weather in the nation? Is severe weather getting worse? How accurate are the weather forecasts? If you have ever wondered about these questions and others, this course will help you find these answers. This introductory course intends to educate you on the fundamentals of the Earth's atmosphere, weather and climate. Topics including: the atmosphere and its energy transformations, the seasons, atmospheric optics, water vapor, precipitation, and the wind are woven together to enable you to understand how weather works and what constitutes severe weather. Other topics of study might include El Nino, ozone depletion and global warming. You will participate in the act of doing science by investigating a weather topic. After taking this course, you should have a better understanding of the science of meteorology, how science progresses, and why Binghamton has such cloudy weather. Laboratory activities including weather data collection and analysis are included in this course.

Credits: 4

**Hours**

3 Class Hours, 3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the layers of the atmosphere, both in chemical composition and temperature distribution.
2. Define temperature, pressure, and humidity.



3. Identify different types of meteorological instrumentation.
4. List the types of precipitation and their causes.
5. Describe the process of cloud formation.
6. Identify different cloud types.
7. Define lapse rates and their uses in meteorology.
8. Describe the earth's heat balance through convection, conduction, radiation, absorption, and scattering.
9. Describe seasonal variations at different locations and state their causes.
10. Describe the general circulation patterns of the earth, on both a large and small scale.
11. Define the jet stream and its effect on U.S. weather patterns.
12. List the air masses that effect the continental U.S.
13. Describe cyclogenesis, pressure systems and their formation with respect to fronts and their effect on our weather.
14. Describe the conditions necessary for severe weather development.

## **PHS 115 - Physical Geology: The Dynamic Earth**

Why does Binghamton have such steep hills and flat valleys? Why do we find such a great variety of rocks in our backyard? Why doesn't Binghamton have more earthquakes or volcanoes? If you have ever wondered about these questions and others like them, this course will help you to discover the answers to them. This course will show you how geologists collect information, analyze and interpret observations. Course content emphasizes the differences between rocks and minerals and what those differences mean to our region. Local examples of streams, the effects of glaciers, volcanoes, earthquakes and why mountains and oceans form. Other topics may be substituted in appropriate parts of the course depending on exciting developments on our dynamic planet. You will gain working knowledge of the geologic wonders that surround you at home and when you travel. Laboratory activities in learning communities allows students to gain a hands-on understanding of geologic concepts and processes.

Credits: 4

### **Hours**

3 Class Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the composition of the Earth, especially the crust.
2. Distinguish between a mineral and a rock and describe characteristics of each.
3. Describe the formation of the three major rock types; list the names and characteristics of some common examples of each type, especially those of local or state importance.
4. List the agents of erosion and various formations resulting from erosion and deposition, especially relating to mass wasting, streams, glaciers and groundwater.
5. Distinguish major types of volcanoes and volcanic eruptions and their effects on humans.
6. Describe the causes, detection, prediction and effects of earthquakes.
7. Construct a model of the Earth's interior based on evidence from seismic waves.
8. Describe and diagram the main types of faults and folds and list the forces causing them.
9. Describe the Plate Tectonic theory and give supporting evidence; describe major plate tectonic events in the Earth's history.



10. Explain the relationship between plate tectonics and volcanism, earthquakes and mountain building.

## **PHS 116 - Global Warming:Energy and the Environment**

Learn about the causes and effects of global warming and other environmental threats including ozone depletion and acid rain. How does the way we use energy affect our changing global climate? How much energy does it take to drive our cars or light, heat and cool our homes? How can we save energy and will saving energy make a difference? Discover positive things we can do as a society and as individuals to help reduce human impact on the climate. Investigate the sources of the energy we use every day. Energy sources include: fossil fuels, nuclear, and alternative sources such as solar, wind, biomass, hydropower and geothermal energy. Current scientific topics may be introduced by both students and instructors. Laboratory activities include hands-on experiences, field trips and energy use analysis.

Credits: 4

### **Hours**

3 Class Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Use the concept of rates to describe various processes and problems.
2. Define velocity, acceleration and displacement.
3. List Newton's Laws of motion and predict motion of objects using Newton's Laws.
4. Define and use the concepts of work and energy to solve problems.
5. Use the concept of a model.
6. Describe and solve problems using the concepts of gravity, electric charge, and magnetic force.
7. Describe the origin and treatment for particulate and gaseous air pollution.
8. Define and use the basic principles of thermodynamics to describe the operation of various plants and the treatment of thermal pollution.
9. Describe the operation of a nuclear power plant and the possible consequences thereof.
10. Describe the energy technology of the future and the possible consequences thereof.
11. List and discuss the problems associated with the alternatives to conventional motor vehicles.
12. Describe a sound wave, the human ear, and noise pollution.
13. Discuss the prospects for mass transportation.
14. Describe remote sensing of materials.
15. Discuss the prospects for materials recycling.

## **PHS 117 - Exploring Everyday Phenomena**

This course uses activities that engage the students in hands-on learning of common physical concepts by experimentation. The course will improve students' perspectives and comfort with science while promoting scientific literacy. There will be no distinction between lab and lecture since the activities are an integral part of the teaching and learning process in the course. The methods and ideas of the course will usually be based on the use of commonly available materials. Group-based activities include observations and measurements, solids, liquids, gases, heat, simple machines,

magnets, static electricity and electrical devices. Appropriate for Elementary Education and Early Childhood majors.

Credits: 4

**Hours**

3 Class Hours; 3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Make length, area, and volume measurements using standard metric units.
2. Understand and be able to find the density of various types of materials.
3. Understand and give evidence for the idea that matter consists of tiny particles called atoms.
4. Understand the basic properties of solids, liquids, and gases.
5. Understand that energy comes in many forms, is conserved, and may be converted from one form to another, but that the conversion will involve some losses in useful energy.
6. Describe methods of heat transfer: conduction, convection and radiation.
7. Describe the operation of and the work, force, distance relationships involved in simple machines.
8. Understand the results of simple experiments in electrostatics and magnetism.
9. Understand the components of electrical circuits and be able to wire simple circuits.

## **PHS 123 - Natural Disasters**

Tsunamis! Tornadoes! Earthquakes! Floods! How likely are you to have to deal with a natural disaster? What is the likelihood that Binghamton will have another flood like the one in June 2006? This course examines the science behind natural disasters and how this results in loss of life and property. Course will use case studies of natural disasters to analyze the forces of nature and their impact.

Credits: 4

**Hours**

3 Class Hours; 3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. State the statistics regarding different types of natural disasters and the highest cause for loss of life and property.
2. Identify the different types of earthquakes and what impacts different soils have on earthquake damage.
3. Identify the different types of volcanoes and which type has a higher probability for loss of life or property; also be able to identify where volcanoes occur.
4. State the causes for mass movements.
5. Identify regions prone to tsunamis, state the measures used to predict or warn the public about approaching tsunamis.
6. Describe the different types of severe weather and how each is formed.
7. Describe why Binghamton, NY is prone to flooding and what a 100-year flood means.
8. Identify the relationship between wind and pressure as it relates to the Saffir-Simpson scale of

- hurricane force winds. Identify the major causes for loss of life during a hurricane.
9. State evidence that supports global climate change and state the causes of global climate change.

## **PHS 125 - Historical Geology: The History of Life and Planet Earth**

Did an asteroid really cause the extinction of the dinosaurs? Where did life come from and how did it evolve? Why do I find fossils of marine organisms in my back yard? If you have ever wondered about these questions, you can discover the answers by taking this course. This course intends to give you a perspective of the enormity of the geologic history of the Earth and the life that lives on it. You will learn how scientists know how old a rock or fossil is and what the conditions in the past were like when it formed. You will also investigate how scientific thinking about the geologic past have changed with respect to the age of the Earth and what the dinosaurs were like. By looking at some bizarre groups of fossils, questions about evolution, speciation and chance will be examined. Also, a detailed study of the local geologic past will reveal that Binghamton was on the shoreline of an ancient tropical sea about 365 million years ago. Course includes laboratory activities.

Credits: 4

### **Hours**

3 Class Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

#### Geologic Time

1. Assess the difference between catastrophism and uniformitarianism.
2. Compare various historical attempts to age-date the Earth including the Judeo-Christian Bible, the accumulation of sediments, accumulation of salt in the oceans, and the rate of heat loss by conduction. Compare age of the Earth estimates of each technique, appraise the assumptions and weaknesses of each of these attempts.
3. Describe Steno's principles and apply to specific geologic situations to unravel the geologic history of each.
4. Differentiate fossils from index fossils and explain how they are used to correlate sedimentary layers around the world.
5. Define radioactivity and half-lives and apply these principles to sequence the events in geologic block diagrams.
6. Prepare a geologic time scale: Pre-Cambrian, Paleozoic, Mesozoic, and Cenozoic.

#### Evolution

1. Discriminate how science differs from religion on evolutionary thought.
2. Assemble a history of the development of evolutionary thought from Aristotle to Darwin.
3. Differentiate between what Darwin did and didn't say about evolution.
4. Analyze what Darwinism is: adaptation, random genetic variation, natural selection, sexual selection, non-constancy of species, gradualism.
5. Organize and describe the proofs for biologic evolution.
6. Define population, species, speciation and extinction.
7. Identify different types of evolution: divergent, convergent, parallel.
8. Discriminate between evolutionary trends of gradualism and punctuated equilibrium.
9. Differentiate between Linnean and Cladistic classification. Examine the advantages and limitations of each.

#### The Pre-Cambrian



1. Describe the formation of the solar system, especially the Earth and its early history.
2. Differentiate between Archean and Proterozoic rocks, atmospheric conditions, life forms and orogenies.
3. Construct the steps necessary in the Evolution of life and photosynthesis.
4. Describe the significance of the Edicaran fauna.

#### The Paleozoic

1. Organize the general characteristics of life, paleogeography, extinctions, regional examples, etc. of the Cambrian, Ordovician, Silurian, Devonian, Carboniferous and Permian worlds.
2. Describe the significance of the Burgess Shale.
3. Construct a Devonian history and paleogeography of South-Central New York State.

#### The Mesozoic

1. Inventory the general characteristics of life and paleogeography of the Triassic, Jurassic, and Cretaceous worlds.
2. Describe the general characteristics of the evolution and types of dinosaurs (saurischian and ornithischian). Discriminate between the general groups of dinosaurs. Differentiate between the evidence for some groups of dinosaurs being endothermic, ectothermic.
3. Sort the differing theories on the extinction of the dinosaurs. List the pros and cons to both an extraterrestrial cause and volcanic cause of the extinction.

#### The Cenozoic

1. Inventory the general characteristics and paleogeography of the Cenozoic worlds.
2. Describe the general characteristics of the evolution and types of mammals.
3. Explore competing theories on the evolution of humans from primate ancestors.

## **PHY 090 - Preparatory Physics**

In this course, students will learn how to apply basic numerical, algebraic, and trigonometric procedures to the solution of physical problems. Topics are selected from the fields of mechanics, heat, wave motion, electricity, optics, and electromagnetic radiation. Numerous laboratory exercises and in-class activities are integrated into the course to reinforce understanding of the physical principles. The course is designed for students who have not had high school physics, or need a basic introduction to physics before taking higher level physics or technology courses.

### **Prerequisite- Corequisite**

Prerequisite: MAT 096 Elementary Algebra and Trigonometry.

Credits: 4

### **Hours**

3 Class Hours; 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discriminate between fundamental and derived units of measurement.
2. State an appropriate SI unit for each physical quantity studied throughout the course.
3. Correctly assess the number of significant figures in a given or measured quantity.
4. Perform calculations with inputs of differing accuracy and state the result with the appropriate number of significant figures.
5. Perform calculations involving numbers in scientific notation.



6. Perform unit conversions within the SI system and between SI and the English system.
7. Measure physical quantities in the laboratory.
8. Analyze experimental data and graphs.
9. Solve algebraic motion problems.
10. Distinguish between vector and scalar quantities.
11. Find the components of a vector.
12. Determine a vector given its components.
13. Add vectors.
14. State Newton's laws of motion.
15. Solve simple problems using Newton's Second Law.
16. Discriminate between weight and mass.
17. Solve problems involving equilibrium of forces.
18. Define concepts of work and power.
19. Distinguish among gravitational potential energy, kinetic energy and elastic potential energy.
20. State the work energy theorem and conditions under which it leads to conservation of total mechanical energy.
21. Solve problems using the work energy theorem, or the law of conservation of energy, where appropriate.
22. Distinguish between temperature and heat.
23. Solve problems involving thermal equilibrium and heat transfer.
24. Explain the physical principles behind the operation of a thermometer.
25. Describe the present theory of the composition of matter in terms of the Standard Model of Elementary Particles.
26. Solve electrostatic force problems using Coulomb's Law.
27. Use Ohm's Law to solve simple problems.
28. Compute electric power, electric energy and cost of operation of ordinary household appliances.
29. Solve simple series and parallel circuit problems.
30. Define open and short, and state the consequence of having each in a series or in a parallel circuit.
31. Define electric and magnetic fields.
32. Describe the phenomenon of electromagnetic induction.
33. Distinguish among the parts of the electromagnetic spectrum on the basis of wavelength, frequency, and energy.
34. Use the mathematical relationships among wavelength, period, frequency, and speed to solve problems.
35. Compute the energy of electromagnetic radiation given either its frequency or wavelength.
36. Describe the relationship between electromagnetic energy and transitions between electron energy levels.

## **PHY 118 - Physics for Physical Therapist Assistants**

Course is designed to cover topics in physics specifically related to PTA students. The topics covered include: forces, torques, linear motion, energy, momentum, conservation laws; temperature and heat, temperature scales, heat transfer, changes of state; electric fields, potential difference; Ohm's law, DC circuits, magnetic field, electromagnetic induction, motion of charges in magnetic fields; wave motion, electromagnetic spectrum, atomic structure.

### **Prerequisite- Corequisite**

Prerequisites: MAT 096 Elementary Algebra and Trigonometry or equivalent.

Credits: 4

**Hours**

3 Class Hours, 2 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discriminate between fundamental and derived units of measurement.
2. State an appropriate SI unit for each physical quantity studied throughout the course.
3. Measure physical quantities in laboratory.
4. Perform a mathematical analysis of experimental data and graphs.
5. Solve algebraic motion problems.
6. State Newton's laws of motion.
7. Solve simple problems using Newton's Second Law.
8. Define mass in terms of inertia and discriminate between weight and mass.
9. Solve problems involving equilibrium of forces and equilibrium of torques.
10. Relate equilibrium concepts to common physical therapy practices.
11. Solve equilibrium problems which include a buoyant force.
12. Define concepts of work and power.
13. Distinguish among gravitational potential energy, kinetic energy, and elastic potential energy.
14. State the work energy theorem and conditions under which it leads to conservation of total mechanical energy.
15. Solve problems using the work energy theorem, or the law of conservation of energy, where appropriate.
16. Distinguish between temperature and heat.
17. Solve problems involving thermal equilibrium and heat transfer.
18. Describe the present theory of the composition of matter in terms of the Standard Model of Elementary Particles.
19. Define charge in terms of its consequences, using Coulomb's Law.
20. Name the electrostatic force and the gravitational force as two examples of an inverse-square law.
21. Define current, voltage, and resistance.
22. Graphically illustrate the difference between the time dependencies of DC and AC voltages.
23. Use Ohm's Law to solve simple problems.
24. State the relationship between voltage, current, and electrical power.
25. Compute electric power, electric energy, and cost of operation of ordinary household appliances.
26. Solve simple problems about circuits containing series and parallel resistor combinations.
27. Know how to connect an ammeter, a voltmeter, a fuse, and a circuit breaker into an electric circuit.
28. Define open and short, and state the consequence of having each in a series or in a parallel circuit.
29. State the function and purpose of a capacitor and name devices which use capacitors.
30. Identify the function of a transformer.
31. Define electric and magnetic fields.
32. Describe the phenomenon of electromagnetic induction.
33. Describe the principle of operation of an electric generator.
34. Use the mathematical relationships among wavelength, period, frequency, and speed to solve problems.
35. Distinguish among the parts of the electromagnetic spectrum on the basis of wavelength, frequency, and energy.

36. Compute the energy of electromagnetic radiation given either its frequency or wavelength.
37. Describe the relationship between electromagnetic energy and transitions between electron energy levels.

## **PHY 160 - Applied Physics-IS**

This is a one-semester course in physics with emphasis on hands-on activities completed by students working in teams. General topics to be discussed include mechanics, vibrations and wave motion, light and optics, electricity and magnetism, thermodynamics and modern physics. Class activities and laboratory experiences are integrated into the class discussions. Computers will be used extensively for data analysis and presentation. Oral and written reports are required.

### **Prerequisite- Corequisite**

Prerequisite: MAT 149 Applied Technical Math II.

Credits: 4

### **Note**

This course may not be used as a substitute for PHY 161 or PHY 162.

## **PHY 161 - Physics I: Mechanics and Heat**

Physics includes the study of matter and motion, mass and energy. It tells you how and why things move. It is important for everyone from technicians to doctors to know why something happens. Problem solving skills that you learn in physics will help you in other courses, as will the skills in laboratory observation and analysis. In Mechanics you will learn about forces and the accelerations they produce, and conservation laws for energy and momentum. In thermodynamics you will study how heat energy affects the properties of matter. This includes topics that range from how atoms bounce around on a hot day to the operation of a gasoline engine. Physics provides the underlying concepts used in technologies and in other sciences. Basic principles are applied to solve realistic problems, using algebra and elementary trigonometry. This course is designed for Liberal Arts, Computer Science, and Technology students and others who are interested in learning why things happen the way they do. Laboratory experiences will provide you with problem solving techniques, measurement skills and applications of theory.

### **Prerequisite- Corequisite**

Prerequisite: Minimum grade of 75 in Math B (H.S.) or a minimum grade of "C" in Math MAT 130 Applied Algebra and Trigonometry or MAT 136 College Algebra and Trigonometry. Minimum grade of 75 in H.S. Physics or a "C" in PHY 090 Preparatory Physics.

Credits: 4

### **Hours**

3 Class Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:



1. Carry out particular experimental tests of various theories considered, including calculating from measurements, stating results, and describing patterns of proportionality.
2. Make and record measurements of such physical quantities as length, time, mass, force, and temperature with appropriate instruments to the limit of accuracy of the instruments.
3. Express the results of measurements and calculations with correct units and with an appropriate number of significant digits.
4. Distinguish between a scalar quantity and a vector quantity.
5. Add two or more vectors by graphical and by component methods.
6. Display understanding of position, velocity, acceleration, and time as different quantities behaving differently in time, by (for example) explaining and graphing how position can be maximal when velocity is zero and acceleration is not zero.
7. Solve problems involving motion with constant acceleration, including linear free-fall and projectile motion problems, using all of the equations describing uniformly accelerated motion.
8. Solve problems involving varied physical systems undergoing uniform circular motion.
9. State and correctly draw conclusions from Newton's first, second, and third laws of motion.
10. Apply the second law, with equations describing motion with constant acceleration, to varied problems, including situations involving friction, linked objects, and later buoyant forces.
11. Use Newton's law of gravitation to draw correct conclusions and to solve numerical problems.
12. Define the quantities work, kinetic energy, gravitational energy, elastic energy, total mechanical energy, and internal energy.
13. Use the work energy theorem and the law of conservation of energy to solve problems.
14. Define the quantities impulse, momentum of an object, and system momentum.
15. Use the impulse momentum theorem and the law of conservation of momentum to solve problems.
16. Determine the torque of a force about a given axis.
17. State Newton's second law for rotation and apply it in solving problems involving an object's rotation about a fixed axis.
18. Apply the concepts of work, kinetic energy, and angular momentum to solving problems involving rotational motion.
19. Apply the first and second conditions of equilibrium in solving problems about the equilibrium of objects with concurrent and non-concurrent forces applied to them.
20. Use the ideas of elastic deformation, stress, strain, and Young's modulus.
21. Define the ideas of density, pressure, and buoyancy and use them to account for everyday phenomena and to solve problems.
22. Distinguish among the ideas of temperature, heat, and internal energy.
23. Solve problems involving thermal expansion.
24. Use the equation of state of an ideal gas to solve problems involving gases in various processes.
25. Solve problems involving transfer of heat between systems changing in temperature and changing phase.
26. Name and describe processes of heat transfer.
27. State and apply the first and second laws of thermodynamics.

## **PHY 162 - Physics II: Wave Motion, Electromagnetism, and Atomic Physics**

This is the second course of an algebra-based sequence in physics. Your study of sound and light will reveal them as examples of waves, and will include study of optical instruments. Electricity and magnetism introduces you to the basic properties of charges and currents, producing electric fields and magnetic fields. You will progress to understand electric energy as one essential component of our standard of living. Some selected topics in modern physics are also covered, including the study



of atoms and their nuclei. Laboratory experiences will provide you with problem solving techniques, measurement skills and applications of theory.

**Prerequisite- Corequisite**

Prerequisite: PHY 161 Physics I: Mechanics and Heat

Credits: 4

**Hours**

3 Class Hours, 3 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Carry out particular experimental tests of various theories considered, including calculating from measurements, stating results, and describing patterns of proportionality.
2. Make and record measurements of various physical quantities with appropriate instruments to the limit of accuracy of the instruments.
3. Express the results of measurements and calculations with correct units and with an appropriate number of significant digits.
4. Solve problems involving the simple harmonic motion of an object.
5. Define the parameters frequency, speed, wavelength, amplitude, and period characteristic of a continuous wave, and reason quantitatively from the relationships among them.
6. Solve problems involving standing-wave resonance.
7. Solve problems involving the reflection, refraction, and dispersion of waves.
8. Use the principles of geometrical optics to solve problems involving mirrors, lenses, and various optical instruments.
9. Describe the phenomena of interference, diffraction, and polarization.
10. Solve problems involving wave intensity and the Doppler effect.
11. Apply concepts in electrostatics to display understanding of the electric nature of matter and the interactions between charged particles and charged objects mediated by electric fields and by electric potentials.
12. Solve problems involving the flow of electrical charge and the transfer of electric energy in single-loop and in multi-loop circuits.
13. Account for the creation of magnetic fields by currents with simple shapes, and the effects of magnetic fields on moving charges.
14. Account for the operation of electromagnetic devices such as meters, motors, generators, and transformers.
15. Use basic concepts of relativity to solve problems involving high-speed motion.
16. Use the idea of a photon to exhibit understanding of the photoelectric effect and the Compton effect.
17. Use the wave-particle duality to describe the motion of small-mass particles, and also of photons.
18. Describe the structure of an atom according to ideas of Rutherford and Bohr. Account for the bright-line spectra of atoms.
19. Enumerate the particles making up the nuclei of atoms, and qualitatively describe the forces of interaction among them.
20. Describe the processes of radioactive decay, and solve problems with the idea of radioactive half-life.
21. Describe the processes of nuclear fission and fusion.
22. Reason about nuclear reactions written as equations; do calculations of energy released.

## **PHY 181 - Physics for Engineers & Scientists I: Mechanics and Thermodynamics**

Engineering Physics, sometimes called "University Physics," uses calculus in the development of principles. The topics include the description of motion and the causes of motion, with the ideas of force, energy, power, and momentum; equilibrium and rotation; and heat and its effects. This course is designed for students studying engineering, computing, science, or mathematics. Laboratory experiences will provide you with problem solving techniques, measurement skills and applications of theory.

### **Prerequisite- Corequisite**

Prerequisite: Minimum grade of 80 in Math B (H.S.) or a minimum of B in Math 156 Algebra and Trigonometry for Calculus, or C in MAT 181 Calculus I (preferred). Minimum grade of 80 in H.S. Physics or C in PHY 161 Physics I: Mechanics and Heat.

Corequisite: MAT 182 Calculus II (preferred) or MAT 181 Calculus I.

Credits: 4

### **Hours**

3 Class Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Compute vector sums, scalar products, and vector cross products.
2. Solve problems involving displacement, velocity and acceleration for one dimensional translating systems at the level of elementary differential and integral calculus.
3. Solve the two dimensional kinematics problems of projectile and circular motions.
4. Apply Newton's three laws to static and dynamic physical situations.
5. Use the concept of kinetic and potential energy along with the work-energy principle to solve mechanics problems with constant and position dependent forces.
6. Calculate the center of mass and energy of motion for discrete and continuous mass distributions.
7. Solve one, two, and three dimensional collision processes.
8. Use the concepts of torque, angular momentum, and moment of inertia in rotating systems.
9. Solve equilibrium problems with concurrent and non-concurrent forces.
10. Solve problems involving simple harmonic motion with analyses based on ordinary second order differential equations.
11. Apply the Universal Law of Gravitation and resulting potential energy function to two body systems.
12. Solve problems using Pascal's, Archimedes and Bernoulli's principles and the elastic properties of solids.
13. Compute the thermal expansion of various materials and use specific heat capacities to solve problems.
14. Use the first and second laws of thermodynamics to solve problems including heat engines and heat pumps.

## **PHY 182W - Physics for Engineers & Scientists II: Sound, Light, Electricity and Magnetism**

This continuation of PHY 181 covers the nature of sound and of light and their behavior; electric and magnetic forces and fields; electric circuits and electric energy transfer; and electromagnetic induction. This is the second semester of University Physics taught at most major Engineering schools. Laboratory experiences will provide you with problem solving techniques, measurement skills and applications of theory.

### **Prerequisite- Corequisite**

Prerequisite: PHY 181 Physics for Engineers & Scientist I: Mechanics and Thermodynamics, and PHY 181L Physics for Engineers & Scientists I: Laboratory.

Corequisite: MAT 182 Calculus II, EGR 101 Engineering Orientation: Student Success II.

Credits: 4

### **Hours**

3 Class Hours, 3 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Analyze questions and problems involving Coulomb's Law.
2. Utilize the concept of electric field strength in solving problems involving point charges and charge distributions.
3. Find the electric field of symmetrical charge distributions by use of Gauss' Law.
4. Compute the capacitance of an object and the effects of dielectrics on that capacitance.
5. Calculate the energy stored in individual capacitors and in groups.
6. Calculate the magnetic field using the Biot-Savart Law and Ampere's Law for various cases.
7. Calculate the magnetic force and torque on a circuit or circuit element.
8. Apply Faraday's Law to the solution of problems involving time-varying magnetic flux.
9. Calculate the value of self-inductance of various objects and the effect of an inductor in a circuit.
10. Solve DC circuits and single loop AC circuits.
11. Solve problems involving the intensity of sound waves and the Doppler effect as applied to sound waves.
12. Solve geometric optics problems involving mirrors and lenses.
13. Solve problems involving the reflection, refraction, diffraction and interference of waves.
14. Compute thin film thickness necessary for various interference effects.

## **PHY 281 - Physics for Engineers & Scientists III**

This elective is the third and last physics course for Engineering and Science majors. It covers Einstein's theory of relativity, quantum mechanics, atomic physics, and nuclear physics. Students majoring in Electrical Engineering, Nuclear Engineering, and Physics should consider taking this course.

### **Prerequisite- Corequisite**

Prerequisite: PHY 182 Physics for Engineers & Scientists II: Sound, Light, Electricity and Magnetism, PHY 182L Physics for Engineers & Scientists II: Laboratory, and MAT 182 Calculus II.



Credits: 4

**Hours**

4 Class Hours

**Note**

(This course is only offered as enrollment warrants.)

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Distinguish between the photoelectrical effect, Compton effect, and pair production.
2. Solve problems involving x-rays and electron diffraction.
3. Interpret de Broglie waves in terms of probability distribution.
4. Use the Schrödinger equation to give a quantum description of a confined particle.
5. Give an account of Rutherford scattering and use Bohr's postulates to solve problems in atomic physics.
6. Describe quantization of angular moments.
7. Explain the normal and anomalous Zeeman effects and describe the Stern-Gerlach experiment.
8. Describe the principles of nuclear radiation measuring devices and high energy accelerators.
9. Explain the contributions to nuclear binding energy.
10. Derive radioactive growth and decay laws.
11. Explain simple decay schemes.
12. Describe methods of neutron production, velocity measurement, and moderation.
13. Solve problems of relativistic motion.

**PMD 201 - Paramedic I**

PMD 201 focuses on comprehensive Advanced Life Support (A.L.S.) preparatory information, pathophysiology, pharmacology, history taking, physical exam, field patient assessment, clinical decision making and airway management and ventilation skills and knowledge. All didactic, practical and clinical education is based on the cognitive, affective and psychomotor objectives of the 1998 EMT-Paramedic National Standard Curriculum.

**Prerequisite- Corequisite**

Prerequisite: Current N.Y.S. EMT Certification; Pre-corequisite: BIO 131 Human Biology I. One year of active EMT practice desirable.

Credits: 14

**PMD 202 - Paramedic II**

Paramedic II continues to build on all A.L.S. Knowledge and skills from PMD 201. The focus of the course is trauma emergencies and specific medical emergencies. Medical emergencies addressed include: pulmonology, cardiology, neurology, endocrinology, allergies and anaphylaxis, gastroenterology, urology, nephrology, hematology, toxicology and substance abuse. All didactic, practical and clinical education is based on the cognitive, affective and psychomotor objectives of the



Paramedic National Standard Curriculum.

**Prerequisite- Corequisite**

Prerequisite: PMD 201 Paramedic I; Pre-corequisite: BIO 132 Human Biology II.

Credits: 14

**PMD 203 - Paramedic III**

Paramedic III continues to build on all A.L.S. Knowledge and skill from PMD 201 and PMD 202. The focus of the course is completing specific medical emergencies, dealing with special populations of patients, as well as field operational topics. Topics include: environmental emergencies, infectious disease, behavioral emergencies, gynecology, obstetrics, neonatology, pediatrics, geriatrics, abused and assaulted patients, chronic and special need patients, ambulance operations, medical incident command, rescue, hazardous materials, crime scene awareness and rural EMS. All didactic, practical and clinical education is based on the cognitive, affective and psychomotor objectives of the Paramedic National Standard Curriculum.

**Prerequisite- Corequisite**

Prerequisite: PMD 202 Paramedic II.

Credits: 12

**PMD 204 - Paramedic IV**

Meeting weekly, Paramedic IV assures comprehensive review of all necessary paramedic knowledge and skills prior to state and national testing. It provides students with specialty courses including Advanced Cardiac Life Support, Pediatric Advanced Life Support, and advanced trauma care. Clinically, students must successfully complete a minimum of 200 hours of field internship over seen by a senior preceptor and acquire an adequate number of specific patient contacts at the A.L.S. Level. Students must have the ability to integrate professional competencies and professional attitudes and consistently demonstrate these abilities. All didactic, practical, and clinical education is based on the cognitive, affective, and psychomotor objectives of the Paramedic National Standard Curriculum.

**Prerequisite- Corequisite**

Prerequisite: PMD 203 Paramedic III and successful completion of all in-hospital and all phase I, II, and III out of hospital clinical time.

Credits: 5

**Hours**

1 Class Hours, 1 Laboratory Hour, 250 Field Hours;

**PMD 211 & 211L - Foundation in Advanced Prehospital Care**

This is the initial course in basic Emergency Medical Technician's progression to EMT-Critical Care or Paramedic. It prepares the student to enter the advanced clinical setting with focus on: perfecting basic and developing advanced skills, team leadership preparation, and safety. The course includes: a review of general cellular physiology and pathophysiology, basic and advanced airway management, field history taking, comprehensive physical assessment, introductory pharmacology, administration of medications, and an in-depth discussion of pulmonary pathophysiology and advanced treatment modalities. The course also includes advanced provider roles and responsibilities, field safety, and the components of an emergency medical system.

**Prerequisite- Corequisite**

Prerequisites: Permission of the instructor is required.

General Prerequisites: A currently valid New York State EMT certificate, field experience, and successful completion of instructor approved course work in human anatomy and physiology, e.g. BIO 131 and BIO 132. Course work in human anatomy and physiology may be taken concurrently.

Co-requisite: If successful completion of instructor approved course work in human anatomy and physiology, e.g. BIO 131 and BIO 132 has not been accomplished then course work in human anatomy and physiology may be taken concurrently which at BCC is the BIO 131 and 132 sequence.

Credits: 5

**Hours**

3 Class Hours; 1.5 Laboratory Hours; 4 Clinical Hours

**Course Profile**

Learning Outcomes:

At the completion of this course, following classroom didactic, affective and psychomotor education along with the completion of clinical time each student will be able to:

1. List the roles and responsibilities of personnel within an EMS system, and how these roles and responsibilities differ.
2. Write the importance of personal wellness and wellbeing of the EMS provider.
3. Justify how to serve as a healthy role model for peers.
4. Consistently demonstrate safe and effective behaviors in the initial response phase of an emergency.
5. Consistently demonstrate collecting and documenting a thorough and accurate field patient history and subjective assessment.
6. Consistently perform and document efficient field medical and trauma patient physical assessments.
7. Discuss general cellular physiology and pathophysiology including acid-base balance.
8. Consistently demonstrate safe and efficient establishment and maintenance of a patient's airway.
9. Consistently demonstrate safe and appropriate ventilation of a patient including ongoing assessment of oxygenation.
10. Safely and precisely obtain access to the venous circulation.
11. Safely and precisely administer medications.
12. Synthesize pathophysiological principles with basic and advanced assessment findings to articulate a field impression, and subsequently formulate and implement a treatment plan for the patient with respiratory problems.

## **PMD 212 & 212L - Advanced Prehospital Care of Cardiovascular & Special Population Patients**

This is the second course in a basic Emergency Medical Technician's progression to EMT-Critical Care or Paramedic. It prepares the student to recognize, assess and treat: common cardiovascular events, ObGyn emergencies, neonatal emergencies, pediatric patients, and HAZMAT situations. It includes cardiovascular pathophysiology and advanced assessment and treatment modalities including basic ECG interpretation. Also included are pathophysiology and advanced assessment and treatment modalities for gynecological and obstetrics patients, and neonatal and pediatric patients. Hazardous materials awareness concludes this course.

### **Prerequisite- Corequisite**

Prerequisites for this course are: successful completion of PMD 211 & PMD 211L or permission of the instructor.

General prerequisites include: a currently valid New York State EMT certificate, field experience, and successful completion of instructor approved course work in human anatomy and physiology, e.g. BIO 131 and BIO 132. Course work in human anatomy and physiology may be taken concurrently.

Co-requisite: If successful completion of instructor approved course work in human anatomy and physiology, e.g. BIO 131 and BIO 132 has not been accomplished then course work in human anatomy and physiology may be taken concurrently which at BCC is the BIO 131 and 132 sequence.

Credits: 5

### **Hours**

3 Class hours; 1.5 Lab Hours; 4 Clinical hours

### **Course Profile**

Learning Outcomes:

At the completion of this course, following classroom didactic, affective and psychomotor education along with the completion of clinical time each student will be able to:

1. Synthesize pathophysiological principles with basic and advanced assessment findings to articulate a field impression, and subsequently develop and implement a treatment plan for the patient with:
  - a. A cardiovascular emergency
  - b. A gynecological emergency
2. Describe the anatomy and physiology of the female reproductive system.
3. Consistently demonstrate assessment and management of a patient experiencing normal or abnormal labor and delivery.
4. Synthesize pathophysiological principles with basic and advanced assessment findings to articulate a field impression, and subsequently develop and implement a treatment plan for the:
  - a. Neonatal patient
  - b. Pediatric patient
5. Recognize and evaluate hazardous material emergencies, call for appropriate resources, and safely manage patients in the cold zone.

## **PMD 213 & 213L - Advanced Prehospital Trauma Care**

This is the third course in a basic Emergency Medical Technician's progression to EMT-Critical Care or Paramedic. It prepares the student to address trauma prevention and to perform prehospital trauma



assessment and treatment. Included are the history of EMS, injury and illness prevention strategies, ambulance operations, and crime scene awareness. Primarily, the course focuses on foundational concepts within trauma pathophysiology and advanced trauma treatment modalities including: hypoperfusion, hemorrhage, head, face, neck, spinal, thoracic, abdominal, and burn trauma.

**Prerequisite- Corequisite**

Prerequisites for this course are: Successful completion of PMD 212 & 212L or permission of the instructor.

General prerequisites include: A currently valid New York State EMT certificate, field experience, and successful completion of instructor approved course work in human anatomy and physiology, e.g. BIO 131 and BIO 132. Course work in human anatomy and physiology may be taken concurrently.

Co-requisite: If successful completion of instructor approved course work in human anatomy and physiology, e.g. BIO 131 and BIO 132 has not been accomplished then course work in human anatomy and physiology may be taken concurrently which at BCC is the BIO 131 and 132 sequence.

Credits: 5

**Hours**

3 Class hours; 1.5 Lab hours; 4 Clinical hours

**Course Profile**

Learning Outcomes of the course:

At the completion of this course, following classroom didactic, affective and psychomotor education along with the completion of clinical time each student will be able to:

1. Restate primary injury prevention strategies as an effective way to reduce death, disabilities and health care costs.
2. Analyze human hazards at a crime scene and from a potentially violent patient.
3. Describe safe and minimally intrusive operations at crime scenes.
4. Consistently demonstrate safe ambulance operation.
5. Integrate principles of injury kinematics to enhance patient assessment and predict the likelihood of injuries.
6. Synthesize pathophysiological principles with basic and advanced assessment findings to articulate a field impression, and subsequently develop and implement a treatment plan for:
  - a. Shock (hypoperfusion)
  - b. Hemorrhage
  - c. Suspected or obvious head injury
  - d. Face injury
  - e. Suspected or obvious neck injury
  - f. Suspected or obvious spinal injury
  - g. Thoracic injury
  - h. Suspected or obvious abdominal injury
  - i. Burn injury

**PMD 214 & 214L - Advanced Prehospital Care of Medical Emergencies**

This is the fourth course in a basic Emergency Medical Technician's progression to EMT-Critical Care or Paramedic. It prepares the student to assess and treat several medical emergencies. Included are introduction to various medical pathophysiology and advanced medical treatment modalities for



neurologic, endocrinologic, toxicologic, psychiatric, and environmental illnesses, as well as allergic reaction and anaphylaxis.

### **Prerequisite- Corequisite**

Prerequisites for this course are: Successful completion of PMD 213 & 213L or permission of the instructor.

General prerequisites include: a currently valid New York State EMT certificate, field experience, and successful completion of instructor approved course work in human anatomy and physiology, e.g. BIO 131 and BIO 132. Course work in human anatomy and physiology may be taken concurrently.

Co-requisite: If successful completion of instructor approved course work in human anatomy and physiology, e.g. BIO 131 and BIO 131 has not been accomplished then course work in human anatomy and physiology may be taken concurrently which at BCC is the BIO 131 and 132 sequence.

Credits: 5

### **Hours**

3 Class hours; 1.5 Lab hours; 4 Clinical hours

### **Course Profile**

Learning Outcomes of the course:

At the completion of this course, following classroom didactic, affective and psychomotor education along with the completion of clinical time each student will be able to:

1. Synthesize pathophysiological principles with basic and advanced assessment findings to articulate a field impression, and subsequently develop and implement a treatment plan for the patient with:
  - a. A neurological problem
  - b. An endocrine problem
  - c. A toxic substance exposure
  - d. An environmentally induced or exacerbated medical condition
  - e. An allergic reaction
  - f. An anaphylactic reaction
2. Consistently demonstrate safe, empathetic competence in caring for patients with behavioral emergencies.

## **PMD 215 & 215L - Advance Prehospital Operations and Integrated Care**

This is the fifth course in a basic Emergency Medical Technician's progression to EMT-Critical Care or Paramedic. It prepares the student to assess and treat several complex medical emergencies and to participate in the management of incidents involving multiple patients. Included are introduction to various medical pathophysiology and advanced medical treatment modalities for a variety of complex medical emergencies including seizure, CVA, TIA, diabetes, ACS, and sexual assault. This course concludes with an in-depth review and discussion of triage and the National Incident Management System.

### **Prerequisite- Corequisite**

Prerequisites for this course are: Successful completion of PMD 214 & 214L or permission of the instructor.

General prerequisites include: A currently valid New York State EMT certificate, field experience, and successful completion of instructor approved course work in human anatomy and physiology, e.g. BIO

131 and BIO 132.

Credits: 4

**Hours**

3 Class hours; 1.5 Laboratory hours; 4 Clinical hours

**Course Profile**

Learning Outcomes for this course:

At the completion of this course, following classroom didactic, affective and psychomotor education along with the completion of clinical time each student will be able to:

1. Synthesize pathophysiological principles with basic and advanced assessment findings to articulate a field impression, and subsequently develop and implement a treatment plan for:
  - a. Seizure
  - b. Cerebral vascular accident
  - c. Transient ischemic attack
  - d. Diabetic emergency
  - e. Acute coronary syndrome of various etiologies
2. Safely manage a patient who is the victim of a sexual assault recognizing the patient's physical and emotional needs along with preservation of crime scene evidence.
3. Consistently demonstrate simple triage and rapid transport principles at a mass casualty incident.
4. Complete NIMS certification at the ICS 200 level.

## **PMD 221 & 221L - Paramedic Foundations and Comprehensive Physical Exam**

This is the sixth course in a basic Emergency Medical Technician's, or the first course in an EMT-Critical Care's, progression to Paramedic. It prepares the student with foundational paramedic level concepts and skills. Early in the course general cellular pathophysiology is expanded with and in depth discussion of hypoperfusion and various shock states. Physical and emotional developmental milestones are reviewed along with effective communication strategies. Additional advanced airway assessment tools and skills are developed. An in depth pharmacology knowledge is cultivated and the course concludes with the development of comprehensive history taking and physical examination skills.

### **Prerequisite- Corequisite**

Prerequisites for this course is permission of the instructor.

For EMS providers at the EMT level general prerequisites include: A currently valid New York State EMT certificate, field experience, and successful completion of instructor approved course work in human anatomy and physiology, e.g. BIO 131 and BIO 132. Course work in human anatomy and physiology may be taken concurrently.

For EMS providers at the Critical Care level (bridge students) must have completed BIO 131 & 132 or its equivalent, present 100 "in charge" ALS calls within the past 5 years, and demonstrate skills and knowledge at the Critical Care level in a qualifying examination.

Co-requisite: If successful completion of instructor approved course work in human anatomy and physiology, e.g. BIO 131 and BIO 132 has not been accomplished then course work in human anatomy and physiology may be taken concurrently which at BCC is the BIO 131 and 132 sequence.

Credits: 5

### **Hours**

3 Class hours; 1.5 Laboratory hours; 4 Clinical hours

### **Course Profile**

Learning Outcomes for this course:

At the completion of this course, following classroom didactic, affective and psychomotor education along with the completion of clinical time each student will be able to:

1. Recognize, classify, and determine proper management of the types of shock.
2. Synthesize pathophysiological principles with pharmacology knowledge and assessment findings to formulate a field impression and implement an appropriate pharmacologic management plan.
3. Consistently apply therapeutic communication principles to effectively communicate with any patient while providing care.
4. Recall and integrate physiological, psychological, and sociological changes throughout human development with assessment and communication strategies for patients of all ages.
5. Recognize, classify, and properly manage a difficult patient airway including:
  - a. Surgical establishment of a patient airway
  - b. Use of capnography to assess and adjust the ventilation of a patient
6. Integrate appropriate alternative techniques to obtain a patient's medical history.
7. Explain the pathophysiological significance of normal and key abnormal physical exam findings.
8. Consistently integrate advanced principles of history taking and physical exam techniques to perform a comprehensive patient assessment.
9. Consistently and accurately collect, organize and state patient information in verbal form, either in person or over the radio following accepted formats.
10. Consistently and accurately collect, organize, and clearly write patient information on patient documentation forms.

## **PMD 222 & 222L - Paramedic Care of Cardiovascular & Special Patient Populations**

This is the seventh course in a basic Emergency Medical Technician's, or the second course in an EMT-Critical Care's, progression to Paramedic. It prepares the student to act as a clinician, employ advanced cardiology diagnostic techniques, and address the unique emergencies of beginning life and end of life patients. Included are: the synthesis of information to make sound clinical decisions, geriatric emergencies, advanced cardiac pathophysiology and skills including heart sounds and 12-lead ECG interpretation, neonatology and pediatrics emergencies. The course concludes with a discussion of the recognition and reporting requirements of abuse.

### **Prerequisite- Corequisite**

Prerequisites for this course are permission of the instructor.

For EMS providers at the EMT level general prerequisites include: A currently valid New York State EMT certificate, field experience, and successful completion of instructor approved course work in human anatomy and physiology, e.g. BIO 131 and BIO 132. Course work in human anatomy and physiology may be taken concurrently.

For EMS providers at the Critical Care level (bridge students) must have completed PMD 221 & 221L.



Co-requisite: If successful completion of instructor approved course work in human anatomy and physiology, e.g. BIO 131 and BIO 132 has not been accomplished then course work in human anatomy and physiology may be taken concurrently which at BCC is the BIO 131 and 132 sequence.

Credits: 5

**Hours**

3 Class hours; 1.5 Laboratory hours; 4 Clinical hours

**Course Profile**

Learning Outcomes for this course:

At the completion of this course, following classroom didactic, affective and psychomotor education along with the completion of clinical time each student will be able to:

1. Systematically apply accepted clinical decision making skills to formulate a field impression and treatment plan.
2. Consistently integrate advanced diagnostic techniques and skills for the patient with cardiovascular disease.
3. Synthesize pathophysiological principles with basic and advanced assessment findings to articulate a field impression, and subsequently develop and implement a treatment plan for the unique emergencies of the:
  - a. Geriatric patient
  - b. Pediatric patient
  - c. Patient who has sustained abuse or assault

## **PMD 223 & 223L - Paramedic Trauma Care**

This is the eighth course in a basic Emergency Medical Technician's, or the third course in an EMT-Critical Care's, progression to Paramedic. It prepares the student to act as a professional independent caregiver and to address complex trauma situations. Included are advanced preparatory concepts such as additional paramedic roles and responsibilities, and medical legal and ethical issues. The majority of this course is devoted to pathophysiology, patient assessment and advanced management of a trauma patient and concludes with complex trauma scenarios requiring efficient synthesis of knowledge and skills.

**Prerequisite- Corequisite**

Prerequisites for this course is permission of the instructor.

For EMS providers at the EMT level general prerequisites include: A currently valid New York State EMT certificate, field experience, and successful completion of instructor approved course work in human anatomy and physiology, e.g. BIO 131 and BIO 132. Course work in human anatomy and physiology may be taken concurrently.

For EMS providers at the Critical Care level (bridge students) must have completed BIO 131 & 132 or its equivalent, present 100 "in charge" ALS calls within the past 5 years, and demonstrate skills and knowledge at the Critical Care level in a qualifying examination.

Co-requisite: If successful completion of instructor approved course work in human anatomy and physiology, e.g. BIO 131 and BIO 132 has not been accomplished then course work in human anatomy and physiology may be taken concurrently which at BCC is the BIO 131 and 132 sequence.

Credits: 5



**Hours**

3 Class hours; 1.5 Laboratory hours; 4 Clinical hours

**Course Profile**

Learning Outcomes of this course:

At the completion of this course, following classroom didactic, affective and psychomotor education along with the completion of clinical time each student will be able to:

1. Describe the paramedic's professional and community responsibilities with respect to:
  - a. Continuing education
  - b. Continuous EMS improvement
  - c. Injury prevention
2. Recall and discuss common out-of-hospital issues with respect to:
  - a. Laws and regulations
  - b. Medical ethics
  - c. Personal ethics
  - d. On- and off-line medical control
  - e. Patient advocacy
3. Synthesize pathophysiological principles with basic and advanced assessment findings to articulate a field impression, and subsequently develop and implement a treatment plan for the patient with:
  - a. Multi-system trauma
  - b. Extensive soft tissue trauma
  - c. Suspected spinal injury
  - d. Complex musculoskeletal injury

**PMD 224 & 224L - Paramedic Care of Medical Emergencies**

This is the ninth course in a basic Emergency Medical Technician's, or the fourth course in an EMT-Critical Care Technician's, progression to Paramedic. It prepares the student to address complex medical emergencies. Discussed are the body's defenses against disease and injury including the immune and inflammatory responses. The majority of this course is devoted to pathophysiology, patient assessment and advanced management of medical patients and concludes with complex medical scenarios requiring efficient synthesis of knowledge and skills.

**Prerequisite- Corequisite**

Prerequisites for this course are permission of the instructor.

For EMS providers at the EMT level general prerequisites include: A currently valid New York State EMT certificate, field experience, and successful completion of instructor approved course work in human anatomy and physiology, e.g. BIO 131 and BIO 132. Course work in human anatomy and physiology may be taken concurrently.

For EMS providers at the Critical Care level (bridge students) must have completed PMD 223 & 223L.

Co-requisite: If successful completion of instructor approved course work in human anatomy and physiology, e.g. BIO 131 and BIO 132 has not been accomplished then course work in human anatomy and physiology may be taken concurrently which at BCC is the BIO 131 and 131 sequence.

Credits: 5

**Hours**

3 Class hours; 1.5 Laboratory hours; 4 Clinical hours

## **Course Profile**

Learning Outcomes for this course:

At the completion of this course, following classroom didactic, affective and psychomotor education along with the completion of clinical time each student will be able to:

1. Describe the components of the body's physical barriers, immune and inflammatory systems and their responses when activated.
2. Recall the bodies response to acute and chronic stress.
3. Synthesize pathophysiological principles with basic and advanced assessment findings to articulate a field impression, and subsequently develop and implement a treatment plan for the patient with:
  - a. A neurological problem
  - b. An endocrine problem
  - c. An allergic or anaphylactic reaction
  - d. A gastroenterologic problem
  - e. A renal or urologic problem
  - f. A toxic substance exposure
  - g. A hematopoietic system disease
  - h. An environmentally induced or exacerbated medical condition

## **PMD 225 & 225L - Paramedic Operations, Pediatric Emergencies, Integrated Care**

This is the tenth course in a basic Emergency Medical Technician's, or the fifth course in an EMT-Critical Care's, progression to Paramedic. It prepares the student to rely upon assessment based management and to treat patients who present unique challenges. Included are acute interventions for the chronic patient and an awareness of general rescue operations. This course re-emphasizes and hones pathophysiology, patient assessment, and advanced management of acute pediatric patients. It concludes with a comprehensive review of all paramedic objectives including complex patient care scenarios.

### **Prerequisite- Corequisite**

Prerequisites for this course are completion of PMD 224 and PMD 224 Lab or permission of the instructor.

Credits: 4

### **Hours**

3 Class hours; 1.5 Laboratory hours; 4 Clinical hours

### **Course Profile**

Learning Outcomes for this course:

At the completion of this course, following classroom didactic, affective and psychomotor education along with the completion of clinical time each student will be able to:

1. Synthesize pathophysiological and psychosocial principles to adapt the assessment and treatment plan for diverse patients and those who face physical, mental, social and financial challenges.
2. Describe various special medical devices that might be encountered while caring for an acute chronic care patient and explain how to trouble shoot common devices.
3. Synthesize pathophysiological principles with basic and advanced assessment findings to articulate a field impression, and subsequently develop and implement a treatment plan for:

- a. Acute deterioration of a chronic care patient
  - b. Common complaints
  - c. Acute pediatric patient
- 4. Restate standards and guidelines that help ensure safe and effective ground and air medical transport.
- 5. Describe and be able to implement the principles of rescue operations to safely rescue a patient from:
  - a. Water
  - b. Hazardous atmospheres
  - c. Trenches
  - d. Highways
  - e. Hazardous terrain

## **POS 201 - Introduction to American Government**

American political institutions, processes and behavior. The relationships among cultural, legal and social aspects of the political system. Structure, organization and function of political parties, pressure groups and mass media. Application to contemporary issues and events. Satisfies the civic education requirement.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the main features of the US government as presented in the Constitution.
2. Identify the major political rights and liberties guaranteed in the Bill of Rights and subsequent amendments, and describe the process by which political rights are created and affirmed.
3. Describe the political process in the United States today, including the roles of political parties, the media, and public opinion.
4. Discuss the nature of political campaigns and the electoral process.
5. Identify the nature and roles of the branches of the federal government.
6. Discuss some of the main features of policy-making at the federal level.

## **POS 203 - International Relations**

An examination of basic concepts and principles of world politics: international conflict resolution, international organizations, and the struggle for power. Factors affecting the relationships among the major powers. The role of diplomacy, alliances, war and peace in the world arena.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe some of the major theories and models of international relations.
2. Identify the institutional framework of international relations today.
3. Discuss the main outlines of the history of US foreign policy.
4. Identify some of the major influences on US foreign policy.
5. Identify and discuss some of the major issues in international relations in the contemporary world.

## **POS 204 - American State and Local Government**

Theory and practice of state and local government, utilizing a problem-solving or "policy" approach. Students are encouraged to explore in depth the workings of city and county governments locally. Satisfies the civic education requirement.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe some of the main features of the structures of state and local government.
2. Discuss how the various levels of government interact with each other and with the citizens they represent.
3. Describe the major elements in the policy-making process in state and local governments.
4. Identify some of the forces influencing policy-making.
5. Identify and discuss some of the primary issues facing state and local governments.

## **POS 299 - Independent Study**

An independent student project which is beyond the scope of courses currently offered by the department, directed by a faculty member with approval of the department chairperson.

### **Prerequisite- Corequisite**

Prerequisite: 3 Semester hours of political science.

Credits: (1-3)

### **Course Profile**

Learning Outcomes of the Course:

Course outcomes will be determined by the instructor with the consent of the department chair and Dean of Liberal Arts.

## **PSY 100 - Psychology of Personal Adjustment**



Investigation of bio-social factors which influence human behavior with emphasis on: (1) development of physical, mental, emotional, social and spiritual well-being; (2) personal responsibility for one's lifestyle and the consequences that flow from one's choices.

Credits: 3

**Hours**

3 Class Hours

**Note**

(This course cannot be used as a prerequisite for other psychology courses.)

## **PSY 110 - General Psychology**

Survey of the field of psychology. Major principles, theories, and methods, and their application to the study of human behavior. Topics include the history and fields of psychology, the scientific method and statistical applications, the neural system, sensation and perception, consciousness, learning and memory, intelligence and cognition, maturation, emotion, personality and social influences.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate knowledge of the major concepts, theoretical perspectives, empirical findings and historical trends in psychology.
2. Demonstrate an understanding of the basic research methods used in psychology and an ability to approach and solve problems from these perspectives.
3. Describe behavioral phenomena and the theories that attempt to explain them.
4. Evaluate research in psychology critically, both in the scientific and the popular press.
5. Communicate effectively about psychological issues.
6. Apply psychological concepts to a variety of real world settings.

## **PSY 210 - Human Development**

Human development from conception through adulthood to the end of life. Considers physical, intellectual, emotional, and social maturation and typical problems in various stages of the life cycle. Especially designed for Health Sciences, Education and Psychology majors.

**Prerequisite- Corequisite**

Prerequisite: PSY 110 General Psychology, ENG 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate understanding and application of the facts, concepts, and theories of the stages of human development from conception through death.
2. Demonstrate an understanding of the scientific method in the study of behavior and recognize the basic research methods used to gain knowledge about the stages of human development across the life span.
3. Understand and analyze psychological research about human development.
4. Identify social and ethical issues as well as current considerations in this field of human development.
5. Develop a broader understanding of human development across cultures.
6. Be familiar with local, state, and federal resources for parents, educators, and other professionals in the field of human development.

## **PSY 211 - Child Development**

An overview of the growth and development of the child from conception to adolescence including cognitive, physical, social and psychological changes. Major theories and research related to child development.

### **Prerequisite- Corequisite**

Prerequisite: PSY 110 General Psychology, ENG 110 College Writing I.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the psychological theories and models of child development.
2. Demonstrate an understanding of the role of biological, psychological, cognitive and social processes in child development.
3. Demonstrate an understanding of the research methods and ethical considerations appropriate for the study of child development.
4. Critically evaluate empirical evidence concerning child development.
5. Apply child development concepts to further the development and welfare of children in real-world settings.

## **PSY 212 - Adolescent Development**

Study of adolescent development and the complex nature of adolescent thought, behavior, and relationships. Focus is on physical, cognitive, social, psychological, and moral development.

**Prerequisite- Corequisite**

Prerequisite: PSY 110 General Psychology, ENG 110 College Writing I.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the psychological theories and models of adolescents development.
2. Demonstrate an understanding of the role of biological, cognitive, social, and psychological processes on adolescent development.
3. Critically evaluate empirical findings concerning adolescent development.
4. Consider ways to effectively apply theoretical concepts to interacting with adolescents in personal and/or professional settings.

**PSY 214 - Abnormal Psychology**

Overview of the history of psychopathology, major psychological disorders, theoretical perspectives to understanding abnormality and approaches to treatment and therapy.

**Prerequisite- Corequisite**

Prerequisite: PSY 110 General Psychology.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the concept of abnormality.
2. Describe the major diagnostic categories of mental disorders.
3. Understand and articulate the differences between the major theories currently used to explain causes and symptoms of mental disorders.
4. Distinguish between the variety of approaches used to treat mental disorders.

**PSY 217 - Introduction to Counseling Theory and Practice**

Theoretical foundations and techniques associated with a variety of individual counseling approaches including psychoanalytic, humanistic, existential, cognitive - behavioral, feminist, and integrative. Basic counseling skills are introduced and practiced.

**Prerequisite- Corequisite**

Prerequisite: PSY 110 General Psychology.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the therapeutic process and the practical elements of the counseling interaction.
2. Understand and distinguish between the various theoretical models of counseling.
3. Learn and practice listening and attending skills essential to the counseling process.
4. Appreciate the variety of ethical and professional issues in counseling and develop a personal position on these issues.
5. Apply five contrasting theories to specific cases.
6. Integrate theoretical and experiential learning in order to begin to develop a personal model of counseling.
7. Engage in self-assessment of personal qualities that support and hinder attempts at being therapeutic for others.

**PSY 223 - Human Exceptionality and Its Assessment**

PSY 223 is a survey of human exceptionality: attention will be focused on the problems, etiologies (causes), and expectancies of exceptional people in their communities, at school, and at home. Topics include persons with learning disabilities, attention-deficit/hyperactivity disorders, emotional disabilities, mental retardation, autism, and people who are gifted, talented, and creative. Special consideration is given to intelligence testing and the placement of atypical learners in special education and inclusive school settings.

**Prerequisite- Corequisite**

Prerequisite: PSY 110 General Psychology.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding and application of the facts, concepts, and theories associated with atypical development.
2. Demonstrate an understanding of the scientific method in the study of behavior and the research methods used to gain knowledge about atypical development.
3. Critically evaluate research about human exceptionalities.
4. Demonstrate an understanding of the etiologies associated with different exceptionalities.



5. Appreciate the various needs of individuals with exceptionalities throughout their lifespan.
6. Become familiar with local, state, and federal resources for parents, educators, and other professionals interested in the field of human exceptionality.
7. Identify and appreciate social and ethical issues associated with working with exceptional individuals.
8. Apply course concepts in personal, educational and professional settings dealing with exceptional individuals.

## **PSY 227 - Learning and Behavior**

Exploration of the basic principles of conditioning and learning. Emphasis on clinical and operant conditioning and their place in the larger theoretical framework of behavioral psychology. Application of these principles to understanding and changing individual and group behavior.

### **Prerequisite- Corequisite**

Prerequisite: PSY 110 General Psychology.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate a knowledge of behavioral orientation in psychology.
2. Demonstrate an understanding of the explanations for behavior as postulated by behaviorists.
3. Demonstrate an understanding of the historical and theoretical underpinnings of classical and operant learning theory.
4. Define basic terms and understand principles and processes associated with classical and operant learning theory and conditioning.
5. Describe the various methods used in behavioral research.
6. Utilize basic techniques of behavior change.
7. Demonstrate an understanding of the relationship between classical and operant learning research findings, many of which are based on animal studies, and direct application to human behavior and its modification.

## **PSY 230 - Psychology of Women**

Introduction to the scientific study of female behavior. Exposure to and evaluation of psychological theories used to explain the female experience. Major women theorists in the field of psychology, their perspectives and contributions.

**Prerequisite- Corequisite**

Prerequisite: PSY 110 General Psychology.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Appreciate the historical underpinnings to the scientific study of women's experience.
2. Understand the historical placement and depiction of women in the discipline of psychology.
3. Understand the theory of social constructionism and its value in the process of understanding women's experience.
4. Understand theories of women's experience as studied by female psychologists, past and present.
5. Explain the biological and psychological basis of female sexuality and gender identity formation.
6. Understand psychological explanations of atypical behavior in women.
7. Develop a cultural perspective for evaluating psychological theories and information that attempts to explain female behavior.

**PSY 234 - Psychology of Addiction**

Overview of the psychology of addictive behavior, psychophysiology of the brain and the addictive process. Addiction to alcohol, illicit drugs, over-the-counter medications, psycho-pharmaceuticals, food, gambling and sex are introduced. The impact of the addictive cycle on the individual, the family, and society as a whole is explored.

**Prerequisite- Corequisite**

Prerequisite: PSY 110 General Psychology.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate knowledge of addiction as a concept.
2. Demonstrate an understanding of various types of addictive behavior.
3. Integrate and apply information regarding how the central nervous system and other bodily systems process chemical substances.
4. Recognize the comprehensive impact of addiction on an individual's overall well being.
5. Demonstrate an understanding of the impact of addiction on the individual, family and society.
6. Apply information about various addiction treatment modalities.
7. Recognize the role that culture and the media have in relationship to addictive behavior.

**PSY 240 - Psychology of Advertising**

Emphasizes the psychological dimensions of advertising as a basis for attracting and retaining consumer awareness of products, companies, and services. Theories of communication, motivation, personality, attitude formation, perception and learning that pertain to the diffusion of media advertising messages are examined and analyzed using television, radio, print, and Internet media.

**Prerequisite- Corequisite**

Prerequisite: PSY 110 General Psychology or permission of instructor.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the historical foundations of the psychology of advertising.
2. Demonstrate an understanding of the ethical issues surrounding advertising strategies currently in use.
3. Describe and analyze theories of motivation, perception and personality as each pertains to specific advertising campaigns.
4. Describe the rationale for market segmentation strategies through the analysis of consumer life-style and life-cycle theories and understand the rationale for utilizing both quantitative and qualitative analyses.
5. Demonstrate an understanding of theories of communication, such as encoding and decoding advertising messages.
6. Identify and explain examples of both classical and operant conditioning techniques utilized in advertising campaigns to affect consumer behavior.
7. Assess the importance of the diffusion of innovation in advertising and the psychological components of each market segment.
8. Demonstrate how advertising can be used to shape an individual's perceptions of advertising messages.

**PSY 245 - Social Psychology**

Scientific study of social influences on human behavior. Topics include social influence, attitudes, group behavior, social perception, social cognition, aggression, and interpersonal attraction.

**Prerequisite- Corequisite**

Prerequisite: PSY 110 General Psychology.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate a working knowledge of the major concepts, theoretical perspectives, empirical findings, and historical trends in social psychology.

2. Demonstrate an understanding of, and ability to use, basic research methods in psychology, including research design, data analysis, and interpretation.
3. Demonstrate the ability to think critically in applying social psychological principles to personal, social, and organizational issues.
4. Demonstrate the ability to communicate effectively about social psychology as a discipline and as a source of useful information and resources.

## **PSY 250 - Educational Psychology**

Application of psychological theory and research to education including behavioral, cognitive, and social approaches to teaching and learning in schools and other educational settings.

### **Prerequisite- Corequisite**

Prerequisite: PSY 110 General Psychology

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the basic issues and constructs in educational psychology.
2. Demonstrate an understanding of the historical and current theories and research which have shaped educational psychology.
3. Demonstrate the ability to approach educational problems from a psychological perspective.
4. Demonstrate the ability to communicate effectively about educational psychology as a discipline and as a source of useful information and resources for educators.
5. Demonstrate the ability to apply psychological knowledge to students' own teaching.
6. Demonstrate the ability to apply psychological knowledge to students' own learning.
7. Demonstrate the ability to think critically about traditional and contemporary educational issues.

## **PSY 299 - Independent Study in Psychology**

Guided or advanced study in psychology, typically beyond the scope or requirements of Psychology courses offered by the department. Conducted under the supervision of a faculty member and approved by the department chairperson.

### **Prerequisite- Corequisite**

Prerequisites: PSY 110 General Psychology plus at least 3 additional hours in a 200 level Psychology course.

Credits: (1-3)

### **Course Profile**

Learning Outcomes of the Course:

To be determined prior to approval. Agreed to by student, faculty member and department chairperson.



## **PTA 100 - Introduction to Physical Therapy I**

The history and development of medicine is outlined. The profession of physical therapy is presented with emphasis on the definition of the role and education of the physical therapist assistant. Students acquire basic knowledge of SOAP note writing, medical terminology, health care institutional organization, ethics, medical-legal aspects of patient care, and fiscal considerations involved. Interpersonal skills and professional/patient interactions are discussed.

### **Prerequisite- Corequisite**

Corequisite: BIO 131, PHY 118.

Credits: 4

### **Hours**

4 Class Hours;

## **PTA 101 - Introduction to Physical Therapy II**

General concepts of disease and disease processes are discussed. Diseases of selected organs are studied as they relate to Physical Therapy.

### **Prerequisite- Corequisite**

Prerequisite: PTA 100; Corequisite: BIO 132.

Credits: 4

### **Hours**

4 Class Hours;

## **PTA 102 - Introduction to Rehabilitation**

The principles of normal body alignment, body mechanics, posture, balance and movement are presented. Bed positioning, moving and lifting the dependent patient are discussed and demonstrated. Goniometrics, transfer and elevation activities, passive and self range of motion exercises are practiced. The therapeutic gymnasium, wheelchairs and assistive devices are introduced. Architectural barriers are explored and therapeutic aquatics are introduced. The rehabilitation of the patient with spinal cord injury, cerebrovascular accidents and amputation is studied.

### **Prerequisite- Corequisite**

Prerequisites: PTA 100 Introduction to Physical Therapy I, PTA 104 Basic Musculoskeletal Anatomy, BIO 131 Human Biology I, PHY 118 Physics for Physical Therapist Assistants.

Corequisites: PTA 101 Introduction to Physical Therapy II, PTA 103 Physical Agents and Massage.

Credits: 4

**Hours**

3 Class Hours, 3 Laboratory Hours

**PTA 103 - Physical Agents and Massage**

Basic principles of massage and application of modalities are presented. Specific skills practiced in the laboratory include various massage techniques; use of hot and cold packs, paraffin application; fluid therapy, use of whirlpool and contrast baths; use of ultrasound; application of microwave diathermy; use of electrical stimulation; and ultraviolet and infrared radiation therapy techniques. Principles and procedures related to the use of the Hubbard tank, therapeutic pool and intermittent compression are also discussed.

**Prerequisite- Corequisite**

Prerequisites: PTA 100, PTA 104, BIO 131, PHY 118; Corequisite: PTA 101, 102.

Credits: 4

**Hours**

3 Class Hours, 3 Laboratory Hours;

**PTA 104 - Basic Musculoskeletal Anatomy**

Basic bone and muscle anatomy is presented in an interactive environment. Course content is required for success in the Physical Therapy field. This course is a prerequisite for all PTA courses level 101 or higher.

**Prerequisite- Corequisite**

Pre/Corequisite: BIO 131 Human Biology I.

Credits: 1

**Hours**

1 Class Hour;

**PTA 110 - Clinical Affiliation I**

An introductory clinical affiliation assignment in a health care facility. Students work under the supervision of a physical therapist with patients requiring treatments including modalities, exercise routines related to neurological conditions, patient care skills, ambulation, activities of daily living and other interventions with which the student is familiar. Additional emphasis on cultural competence and time management skills. The student meets with the clinical coordinator to assess progress. Clinical hours: 40 hr/week for 4 weeks.

**Prerequisite- Corequisite**

Prerequisite: PTA 101 Introduction to Physical Therapy II, PTA 102 Introduction to Rehabilitation, PTA 103 Physical Agents and Massage.

Credits: 3

**Hours**

10.7 Clinical Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Perform all interventions/assessments in a safe, ethical, efficient and technically competent manner that minimizes risk to patient, self and others.
2. Communicate with patient, peers, family members and other caregivers in writing and orally in ways congruent to situational needs and supports delivery of patient services.
3. Obtain accurate information by performing selected data collection consistent with the plan of care established by PT.
4. Deliver established patient care to reflect respect for and sensitivity to individual differences.

## **PTA 201 - Kinesiology**

Muscle structure and function are reviewed. Normal human motion is studied. Manual Muscle Testing is studied in the laboratory. Pathological posture and gait patterns are presented.

**Prerequisite- Corequisite**

Prerequisite: successful completion of all freshman level courses; Corequisite: PTA 202.

Credits: 4

**Hours**

3 Class Hours, 3 Laboratory Hours;

## **PTA 202 - Therapeutic Exercise**

The principles and techniques of therapeutic exercise are presented. Specific neurological, medical, surgical and orthopedic conditions are studied, as are normal gait and posture.

**Prerequisite- Corequisite**

Prerequisites: successful completion of all freshman level courses; Corequisite: PTA 201.

Credits: 4

**Hours**

Class Hours, 3 Laboratory Hours;

## **PTA 203 - Therapeutic Assessment & Review for the PTA**

An overview of the basic orthopedic, neurological, integumentary, pediatric and cardiopulmonary assessments in the physical therapy clinical setting. Includes the application of specific state laws to the performance of these assessments by physical therapist assistants. Also included in this course will be brief reviews of pertinent/related pathological conditions.

### **Prerequisite- Corequisite**

Corequisites: PTA 213 Senior I, PTA 220 Clinical Affiliation III, PTA 224 Senior Seminar II.

Credits: 2

### **Hours**

2 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify basic therapeutic assessments in the following areas: upper and lower extremity orthopedics, spinal orthopedics, sensory system, balance and coordination (sitting and standing), pediatrics, integumentary and cardiopulmonary areas of physical therapy.
2. Explain the implications of the following as they pertain to rehabilitation: orthopedic injuries, neurological injuries/diseases, wound management, postural deficits, cardiopulmonary pathology, pediatric diseases/disabilities, gait deviations, normal gait patterns and pharmaceuticals.

## **PTA 210 - Clinical Affiliation II**

A clinical affiliation assignment in a health care facility to assist students to improve skills and increase experience. Students work under the supervision of a physical therapist with patients requiring treatments including modalities, exercise routines related to neurological conditions, patient care skills, ambulation, activities of daily living and other interventions with which the student is familiar. The student meets with the clinical coordinator to assess progress. Includes the observation of surgical procedures. Clinical hours: 40 hr/week for 5 weeks.

### **Prerequisite- Corequisite**

Prerequisite: PTA 110 Clinical Affiliation I.

Corequisites: PTA 201 Kinesiology, PTA 202 Therapeutic Exercise.

Credits: 4

### **Hours**

13.3 Clinical Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Perform all interventions/assessments in a safe, ethical, efficient and technically competent manner that minimizes risk to patient, self and others.



2. Communicate with patient, peers, family members and other caregivers in writing and orally in ways congruent to situational needs and supports delivery of patient services.
3. Obtain accurate information by performing selected data collection consistent with the plan of care established by PT.
4. Deliver established patient care to reflect respect for and sensitivity to individual differences.
5. Describe the method and document the experience of an observed surgical procedure.
6. Manage at least one-half a typical patient caseload by the final week of the affiliation.
7. Demonstrate time management skills.

## **PTA 213 - Senior Seminar I**

Additional neurological, orthopedic, medical and surgical conditions are presented. Basic principles of testing and complex treatment procedures are included so that the student understands and is aware of how to assist the Physical Therapist. Additional psychosocial issues are also discussed. This course is presented in a seminar format of two to four-hour segments for the first 7 weeks of the semester. SPECIAL CONSIDERATIONS: This course may be presented by guest lecturers and sessions may be held off campus in various health care facilities depending upon the particular topic. Significant preparation time outside of regular class hours is required.

### **Prerequisite- Corequisite**

Prerequisites: PTA 201, 202, 210.

Credits: 5

### **Hours**

75 Class Hours during 7 weeks;

## **PTA 220 - Clinical Affiliation III**

A clinical affiliation assignment in a health care facility to assist students in mastering entry-level skills for employment as a physical therapist assistant. Students work under the supervision of a physical therapist with a wide variety of patients requiring treatments including modalities, exercise routines related to neurological conditions, patient care skills, gait training, activities of daily living and other interventions with which the student is familiar. Students meet several times with the clinical coordinator to assess progress. Clinical hours: 40 hr/week for 6 weeks.

### **Prerequisite- Corequisite**

Prerequisites: PTA 201, Kinesiology, PTA 202 Therapeutic Exercise, PTA 210 Clinical Affiliation II.

Corequisites: PTA 203 Therapeutic Assessment & Review for the PTA, PTA 213 Senior Seminar I, PTA 224 Senior Seminar II.

Credits: 6

### **Hours**

16 Clinical Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Perform all interventions/assessments in a safe, ethical, efficient and technically competent manner that minimizes risk to patient, self and others.
2. Communicate with patient, peers, family members and other caregivers in writing and orally in ways congruent to situational needs and supports delivery of patient services.
3. Obtain accurate information by performing selected data collection consistent with the plan of care established by PT.
4. Deliver established patient care to reflect respect for and sensitivity to individual differences.
5. Demonstrate time management skills.
6. Research a case study on a patient undergoing physical therapy.
7. Manage a typical patient caseload, appropriate for the entry level PTA by the final week of the affiliation.

## **PTA 224 - Senior Seminar II**

A capstone course designed to allow students to integrate their theoretical knowledge and their clinical experience. Students meet and present case studies in seminar format based on their clinical experience. If time permits, special topics are presented and discussed. In addition, a student/teacher conference is required for each student prior to graduation. The course is held for 9 hrs/week for 2 weeks.

### **Prerequisite- Corequisite**

Prerequisites: PTA 213 Senior Seminar I, PTA 220 Clinical Affiliation III.

Credits: 1

### **Hours**

1 Seminar Hour

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate the ability to complete data collection from the patient chart, family, personnel and literature review and discuss the impact of data collected in progression of patient interventions within the plan of care established by the PT.
2. Discuss the impact of psychosocial factors and reimbursement policies on patient interventions and outcomes.
3. Describe the interrelationship of physical therapy practitioners and other health care providers to the patient's total treatment plan.
4. Discuss the integration of theory learned in PTA courses and learning gained through practical experience in the clinic.
5. Demonstrate that he/she has been socialized into the role of Physical Therapist Assistant and has internalized appropriate characteristics as shown through action and appearance.
6. Present a case study on a patient undergoing physical therapy.

## **PTA 299 - Independent Study**

Course content covering advanced work in Physical Therapist Assistance on which the instructor and student agree. The material is beyond the scope of an ordinary course and it must be approved by the department chairperson. Conducted under the direction of a faculty member.

### **Prerequisite- Corequisite**

Prerequisite: Department approval.

Credits: 14

## **RAD 100 - Introduction to Clinical Education**

Overview of radiologic technology through the study of its historical development, its placement in the medical field today, the organization of a modern radiology department, professional ethics, medicolegal aspects of radiology, and medical terminology. Introduction and orientation to the Radiology Department in an affiliating hospital during the last five weeks of the semester and during intercession. Clinical hours: 16 hrs/week for 5 weeks; 40 hrs/week for 1-2 weeks.

Credits: 4

### **Hours**

3 Class Hours, 10.67 Clinical Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Communicate with patients in a compassionate and caring manner.
2. Define basic medical terms, medical abbreviations and symbols.
3. Apply medical/professional ethics in the context of a broader societal ethic.
4. Explain concepts of personal honesty, integrity, accountability, competence and compassion as ethical imperatives in health care.
5. Identify legal and professional standards and relate each to practice in health professions.
6. Explain the legal implications of professional liability, malpractice, professional negligence and other legal doctrines applicable to professional practice.
7. Identify the benefits of continuing education as related to improved patient care and professional enhancement.

## **RAD 101 - Image Production and Evaluation I**

Introduction to the basic principles of radiographic imaging including recording media, processing methods, radiographic quality and radiographic accessories. Lecture and laboratory are coordinated to enhance these fundamental concepts.

Credits: 3

### **Hours**

3 Class Hours, 1 Laboratory Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify and describe a quality radiographic image, various imaging systems, and the components of an imaging system.
2. Describe the conventional processing area and darkroom, radiographic film, and digital processing.
3. Perform, identify and describe the steps to automatic processing and alternative processing methods.
4. Identify and differentiate between the types of intensifying screens, digital imaging plates, digital detectors, and imaging artifacts.
5. Perform, identify, and briefly describe how the geometric and photographic properties affect a quality radiographic image such as density, contrast, recorded detail and distortion.

**RAD 102W - Image Production and Evaluation II**

Advanced study of the factors contributing to the radiographic image and evaluation. This course is designated as a writing emphasis course.

**Prerequisite- Corequisite**

Prerequisite: RAD 101 Image Production and Evaluation I.

Credits: 4

**Hours**

4 Class Hours, 1 Laboratory Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify and describe the basic fundamentals of x-ray production.
2. Describe the possible fates of x-ray photons interacting with matter and how various beam limitations can control scatter.
3. Identify and describe the anatomical and pathological factors that affect the radiographic image.
4. Perform and describe how the image receptor responds to x-rays and the various tools and charts that are used to evaluate this response.
5. Perform, identify and briefly describe the terms of exposure manipulation, automatic exposure control, and the analysis of image quality.

**RAD 103 - Positioning I**

Instruction and practice in radiographic positioning of the appendicular skeleton.

Credits: 2

**Hours**

1 Class Hour; 5 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:



Upon successful completion of this course the student will be able to:

1. Identify and discriminate between terms such as conventional radiographic image, digital image, projection, position, method, view, and several other basic positioning terms.
2. Identify and describe the patient positioning, CR direction, tube angulation, centering point, anatomical structures demonstrated and evaluation criteria for each of the following radiographic projections/positions involving the upper extremities, lower extremities, chest, abdomen, and shoulder girdle.
3. Identify the position demonstrated on radiographic images of the upper and lower extremities, chest, abdomen, and shoulder girdle regions.
4. Perform or simulate the above mentioned radiographic projections/methods on phantoms or live subject, respectively.
5. Perform 85% proficiency in hands-on evaluations with each of the following areas upper extremity, lower extremity, chest, abdomen, and shoulder girdle, prior to performing these types of exams on patients in the clinical setting.

## **RAD 104 - Positioning II**

Instruction and practice in radiographic positioning of the axial skeleton.

### **Prerequisite- Corequisite**

Prerequisite: RAD 100 Introduction to Clinical Education.

Credits: 2

### **Hours**

1 Class Hour; 2 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify and describe the patient positioning, CR direction, tube angulation, centering point, anatomical structures demonstrated, and evaluation criteria for the required radiographic positions/projections involving the bony thorax, pelvic girdle, spinal column, and skull.
2. Identify the position/projection demonstrated on radiographic images of the bony thorax, pelvic girdle, spinal column, and skull.
3. Perform or simulate the required radiographic positions/projections on phantoms or live subject, respectively.
4. Perform 85% on practical evaluations with each of the following areas; bony thorax, pelvic girdle, spinal column, and skull, prior to performing these exams on patients in the clinical setting.

## **RAD 110 - Methods of Patient Care**

Patient care procedures routinely performed in the radiology department.

Credits: 1

### **Hours**

1 Class Hour, 1 Laboratory Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify and explain the following procedures that deal with the care of a patient in the radiology department; basic first aid, transporting the patient safely, vital signs, medical and surgical asepsis, intubation, and contrast media.
2. Perform practical evaluations for patient transport and blood pressure on live patients.
3. Fill a syringe with contrast media.
4. Give a brief explanation of the ancillary radiology departments.

**RAD 115 - Radiation Protection**

Basic radiation protection for the student radiographer.

Credits: 1

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain the justification and responsibility of providing radiation protection during radiographic exams.
2. Define and identify the production of x-ray and the types of x-ray interactions with matter.
3. Identify and differentiate radiation quantities, the appropriate symbols for each, and the recommended measurement guidelines.
4. Identify and describe the biological effects from ionizing radiation and means of protecting the patient and occupational radiographers.
5. Identify and describe the various methods and/or devices that may be used to detect and monitor radiation exposure.

**RAD 132 - Clinical Education II**

Observation and clinical experience for the development of competency involving elementary radiographic procedures in an affiliated hospital. Clinical hours: 16 hr/week for 15 weeks.

**Prerequisite- Corequisite**

Prerequisites: RAD 100 Introduction to Clinical Education, BIO 131 Human Biology I, and RAD 103 Positioning I, or permission of instructor.

Credits: 2

**Hours**

16 Clinical Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Perform imaging procedures under direct supervision for first year level students.
2. Develop professional attitude by putting into practice knowledge of ethics, patient care, and communication skills.
3. Become more proficient in the use of radiographic equipment and adhere to radiation protection measures.
4. Integrate the radiographer's practice standards and HIPAA requirements into the clinical practice setting.
5. Perform with 80% accuracy a minimum of 10 competencies on specific categories, after proving proficient on-campus practical exams.

## **RAD 133 - Summer Clinical Education III**

Clinical experience for development of competency involving general radiographic procedures in an affiliated site. Clinical hours: 40 hr/week for 11 weeks.

### **Prerequisite- Corequisite**

Prerequisites: RAD 132 Clinical Education II, BIO 132 Human Biology II, RAD 104 Positioning II, or permission of instructor.

Corequisites: RAD 214 Sectional Anatomy, RAD 216 Imaging Modalities.

Credits: 4

### **Hours**

29.3 Clinical Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Perform imaging procedures under direct/indirect supervision for progressing second year level students and observing other imaging modalities.
2. Maintain professional attitude by integrating appropriate personal and professional values into clinical practice.
3. Demonstrate proficiency in the use of radiographic equipment, radiation protection, patient communication, and contrast agents.
4. Maintain radiographer's practice standards and HIPAA compliance.
5. Perform with 80% accuracy a minimum of 10 competencies on specific categories, after providing proficient on-campus practical exams.

## **RAD 201 - Equipment Operation and Maintenance**

Principles and operation of radiographic imaging equipment, tube design, X-ray circuitry, mobile equipment, image intensification, and digital radiography/fluoroscopy.

### **Prerequisite- Corequisite**

Prerequisites: RAD 102W Image Production and Evaluation II.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe and compare imaging systems and the main components of each.
2. Define and explain electrostatics, electrodynamics, and magnetism.
3. Identify and briefly describe electromagnetism, laws of electromagnetic induction, electromechanical devices, and transformers.
4. Describe the construction and principles of operation of the x-ray circuitry, timers, rectifiers, generators, and mobile x-ray units.
5. Identify and describe the construction, principles of operation, advantages and disadvantages of x-ray tube design, rating charts, and digital imaging equipment.

**RAD 204 - Advanced Positioning**

Instruction and practice in positioning techniques involving the skull, facial bones, and advanced radiographic procedures.

**Prerequisite- Corequisite**

Prerequisite: RAD 133 Clinical Education III.

Credits: 1

**Hours**

1 Class Hour, 1 Laboratory Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify and describe the patient positioning, CR direction, tube angulation, centering point, anatomical structures demonstrated, and evaluation criteria for the required radiographic positions/projections involving the skull, sinuses, orbits, and facial bones.
2. Identify the position/projection demonstrated on radiographic images of the skull, sinuses, orbits, and facial bones.
3. Perform or simulate the required radiographic positions/projections on phantoms or live patients respectively.
4. Perform 90% on practical evaluations with each of the following areas of the head; sinuses, orbits, and facial bones.
5. Identify and explain the following Advanced Radiographic procedures; Pediatric Radiography, Bone Densitometry, Radiography of the Respiratory System, Radiography of the Genito-Urinary System, and Radiography of the Reproductive System.

**RAD 211 - Pharmacology for Radiographers**

Pharmacology and drug administration for imaging technologists.



**Prerequisite- Corequisite**

Prerequisite: BIO 132 Human Biology II.

Credits: 1

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Distinguish between the chemical, generic and trade names for select drugs.
2. Classify drugs according to specific categories.
3. Explain the effects of select drugs on medical imaging procedures and explain the actions, uses and side effects for select drugs.
4. Explain the pharmacology of barium and iodine compounds.
5. Describe methods and techniques for administering various types of contrast agents and identify and describe the routes of drug administration.
6. Demonstrate appropriate venipuncture technique on a simulated arm utilizing appropriate aseptic technique.
7. Identify, describe and document complications associated with intravenous drug therapy and appropriate actions to resolve these complications.
8. Explain the current legal and ethical status of the radiographer's role in drug administration.

**RAD 214 - Sectional Anatomy**

An introduction to cross sectional anatomy and its relationship to structures visualized in computed tomography, magnetic resonance imaging and sonography.

**Prerequisite- Corequisite**

Prerequisite: BIO 132 Human Biology II.

Credits: 1

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the basic sectional anatomy of the brain, thorax, abdomen, pelvis and extremities.
2. Correlate and identify sectional anatomy on CT & MRI images with cadaver images and diagrams.

**RAD 216 - Imaging Modalities**

- Introduction to the principles of computerized axial tomography, nuclear medicine, magnetic resonance imaging, and ultrasound.

**Prerequisite- Corequisite**

Prerequisites: RAD 102 Image Production and Evaluation II, CST 105 Computer Applications.

Credits: 1

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the following imaging procedures: MRI; CT; Nuclear Medicine; PETCT and Ultrasound.
2. Provide patient education concerning the following procedures: MRI; CT; Nuclear Medicine; PETCT and Ultrasound.
3. Observe each of the various imaging modalities for diagnostic studies: MRI; CT; Nuclear Medicine; PETCT and Ultrasound.
4. Perform basic CT competencies of the head, thorax and abdomen.

## **RAD 220 - Radiologic Pathology**

A presentation of the various medical and surgical diseases and their relationship to radiographic procedures.

**Prerequisite- Corequisite**

Prerequisite: BIO 132 Human Biology II or permission of instructor.

Credits: 2

**Hours**

2 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define basic terms related to pathology.
2. Discuss the symptoms manifested and treatment of various congenital, chronic, acute, and acquired diseases.
3. Identify diseases causes by or contributed to by genetic factors.
4. Identify various disease processes radiographically.
5. Explain how a disease might affect the production of the radiographic image.

## **RAD 225W - Advanced Imaging Procedures**

An overview of advanced imaging procedures such as: equipment, the use of computers in imaging, responsibilities of the radiographer, and the care of the patient. The use of body systems-based approach to imaging procedures. This course is designated as a writing emphasis course.

**Prerequisite- Corequisite**

Prerequisite: RAD 230 Clinical Education IV, RAD 204 Advanced Positioning, or permission of instructor.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe specialized radiographic equipment utilized for vascular, cardiac, surgical, interventional, and trauma radiography.
2. Identify radiographic anatomy utilizing advanced imaging procedures.
3. Determine the ideal diagnostic procedure which will provide optimal diagnostic results.
4. Provide patient education for advanced imaging procedures.

## **RAD 230 - Clinical Education IV**

Practical application of advanced positioning techniques in an affiliating site. Clinical hours: 24 hrs/week for 15 weeks; 40 hrs/week for 1-2 weeks during winter intersession.

**Prerequisite- Corequisite**

Prerequisite: RAD 133 Summer Clinical Education III or permission of instructor.

Credits: 4

**Hours**

29.3 Clinical Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Perform advanced imaging procedures under more indirect supervision for second year level students focusing on procedures such as: skull, sinuses, facial bones, surgical, pediatric, trauma.
2. Demonstrate continued professional attitude in the clinical practice.
3. Maintain proficiency in the use of radiographic equipment, radiation protection, patient communication, and contrast agents.
4. Maintain radiographer's practice standards and HIPAA compliance.
5. Perform with 80% accuracy a minimum of 10 competencies on specific categories, after proving proficiency on campus practical exams.

## **RAD 232 - Clinical Education V**

Application of advanced radiographic procedures including evening assignments in an affiliated hospital. Clinical hours: 24 hr/week for 15 weeks.

**Prerequisite- Corequisite**

Prerequisite: RAD 230 clinical Education IV.

Credits: 3

**Hours**

24 Clinical Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Perform advanced imaging procedures, simulations, and terminal competencies to include patient care and communication skills, radiation protection, image production, and evaluation images.
2. Demonstrate entry level radiographer skills and professional attitude.
3. Demonstrate competency in the use of radiographic equipment, radiation protection, patient communication, and contrast agents.
4. Maintain radiographer's practice standards and HIPAA compliance.
5. Complete American Registry of Radiologic Technologists (ARRT) Clinical Competency Requirements.

## **RAD 245 - Radiobiology**

Radiobiology and advanced radiation protection procedures related to diagnostic and therapeutic uses of radiation.

**Prerequisite- Corequisite**

Prerequisite: RAD 201 Equipment Operation and Maintenance.

Credits: 2

**Hours**

2 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define and describe radiobiology, interactions of radiation and atoms, basic concepts of radiation, and the chemical composition of the human body.
2. Identify and describe the molecular composition of a cell and the effects of radiation on cells.
3. Describe the tissue radiosensitivity, systemic, genetic, and somatic effects of ionizing radiation.
4. Briefly describe the radiation-induced mutations of DNA and chromosomes.
5. Identify and describe means of radiation protection and measurement in order to follow the ALARA Concept.

## **RAD 250 - Quality Assurance**

The basic principles and techniques of quality assurance testing presented and illustrated through laboratory experiments. Major emphasis on the tests and measurements used to analyze imaging systems with minimum information loss.

**Prerequisite- Corequisite**



Prerequisite: RAD 201 Equipment Operation and Maintenance.

Credits: 2

**Hours**

2 Class Hours, 1 Laboratory Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define and describe the historical development of quality assurance, quality management, quality care, quality control testing and the QM tool used to evaluate them.
2. Perform, identify and describe the purpose, frequency of testing, test equipment, potential problems, acceptance limits, and possible corrective actions for radiographic equipment, processing equipment, and viewing equipment.
3. Perform, identify and describe the quality control testing for beam geometry and quality.
4. Define and briefly describe quality assurance/control testing for CT, MRI, Ultrasound, Nuclear Medicine, Interventional, Mammography, and Digital Imaging.
5. Explain the purpose of Total Quality Management within a radiology department.

## **RAD 262 - Mammography**

Individual modules consisting of 1) patient education and assessment; 2) anatomy, physiology, and pathology of the breast; 3) positioning and image evaluation; 4) mammographic technique; and 5) instrumentation and quality assurance. Preparation for the AART mammography registry examination.

**Prerequisite- Corequisite**

Prerequisite: RAD 230 Clinical Education IV or equivalent.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate basic mammographic positioning skills.
2. Explain advanced positioning techniques for supplementary views, difficult patients and implant patients.
3. Describe how various physical characteristics of the x-ray tube affect mammographic imaging; perform mammography quality control testing procedures per MQSA guidelines.
4. Describe the differences between imaging systems used to perform Full Field Digital Mammography (FFDM) examinations.
5. Describe and develop a comprehensive quality assurance program for digital mammography; understand the differences between film-screen and digital imaging.
6. Describe the parameters in digital imaging that control resolution and contrast.

## **RAD 266 - Magnetic Resonance Imaging**

Magnetic Resonance Imaging for the Radiographer.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the physics of MRI.
2. Analyze the types of disease processes that are diagnosed through the use of MRI.

## **RAD 295 - Seminar in Radiography**

Preparation of the technical report and its organization for both written and oral presentation.  
Readings in current literature and journals.

Credits: 2

### **Hours**

2 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Prepare oral and written presentation.
2. Develop a resume.
3. Pass competency examinations with an 80% in: Radiation Protection and Radiation Biology, Equipment Operation and Quality Control, Image Production and Evaluation, Patient Care, and Radiographic Procedures.

## **RAD 298 - Independent Clinical Study**

A one-time individual student clinical experience to be conducted under the direction of a clinical instructor and approved by the department chairperson.

Credits: (1-2)

### **Hours**

Clinical: TBD

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Perform specified imaging procedures to an appropriate level of competency.

## **RAD 299 - Independent Study**

An individual student project concerned with advanced work in a specific area of radiography. Independent study is concerned with material beyond the scope and depth of courses currently offered by the department. Conducted under the direction of a faculty member.

### **Prerequisite- Corequisite**

Prerequisite: Approval of Department Chairperson.

Credits: (1-3)

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate the ability to work independently to achieve a goal.
2. Demonstrate proficiency in the specific area of study.

## **RDG 90 - Reading Fundamentals**

A non-credit course involving individual diagnosis of student's reading strengths and weaknesses, and development and implementation of program to upgrade basic skills. Content to vary with individual student.

Credits: 0

### **Hours**

4 Class Hours, 4 credit-equivalents.

## **RDG 92 - College Preparatory Reading**

A course emphasizing vocabulary expansion, inferential and critical comprehension, and flexible rate. Instruction and practice of reading skills to specific content areas.

Credits: 0

### **Hours**

4 Class Hours, 4 credit-equivalents

## **RDG 94 - College Vocabulary Skills**

Designed to provide students with several methods of mastering vocabulary encountered in college courses. Students will review dictionary skills. Learn to infer meanings from context, structural analysis, and methods of studying vocabulary for examinations. In-class practice will be designed to fit students' individual needs.

Credits: 0

**Hours**

2 Class Hours for 8 Weeks.

**RDG 110 - Efficient Reading**

Development of skills characteristic of the mature reader. Examination of structure of material, emphasis on identification of purpose, flexibility of rate.

Credits: 1

**Hours**

2 Class Hours for 10 Weeks; Course starts at beginning of third week of semester.

**RDG 120 - Critical Reading**

Emphasis is on critical reading and thinking skills. Students will analyze and evaluate college level readings beyond the literal level. Critical thinking skills will also be applied to the mastery of content area text material.

Credits: 3

**Hours**

3 Class Hours

**RUS 101 - Beginning Russian I**

Basic principles of grammar and syntax. Reading and discussion of graded literary and cultural texts.

Credits: 4

**Hours**

4 Class Hours, 1 Laboratory Hour

**RUS 102 - Beginning Russian II**

Basic principles of grammar and syntax. Reading and discussion of graded literary and cultural texts.

Credits: 4

**Hours**

4 Class Hours, 1 Laboratory Hour

**RUS 201 - Intermediate Russian I**



Review of grammar and its application to spoken and written Russian. Reading of literary and cultural texts.

Credits: 3

**Hours**

3 Class Hours

## **RUS 202 - Intermediate Russian II**

Continuation of RUS 201.

Credits: 3

**Hours**

3 Class Hours

## **SAC 101 - The Individual in a Changing Environment**

Individual interaction and reading designed to foster understanding and application of psychological and emotional growth within the many environments we are part of. Basic class material is the individual and group analysis of student's experience within an immediate unstructured setting. Focus on analysis and organization of experience into a personally rewarding conception of growth. Individual self-development projects outside the class.

Credits: 3

**Hours**

3 Class Hours

## **SAC 110 - Orientation for International Students**

An orientation course for international students designed to aid in their adjustment as students at Broome Community College. Study skills, academic regulations, the American educational system, individual educational and vocational goals, American customs. Especially intended for students during their initial semester of enrollment in conjunction with English-as-a-Second-Language course offerings, such as ESL 103, 104, 106. (This course is not acceptable for credits toward a degree.)

Credits: 2

**Hours**

2 Class Hours

## **SAC 250 - Career Exploration**

How to plan, establish, change a career. The process of deciding on a career and implementing career goals, assessment of values, interests and skills plus their relationship to occupations. Analysis of the labor market needs, identification of employers and sources of occupation information, the means of securing employment through proposals, resumes, applications and job interviews. Supportive small group atmosphere. Class activities include discussion, speakers, testing, and individual counseling within career development theory.

Credits: 3

**Hours**

3 Class Hours

## **SAC 251 - Career Search**

For people who know their interests, skills, and values but are not sure which career field or lifestyles would be most satisfying to them. Sources of occupational information, analysis of labor market needs, what colleges and college majors best prepare students for their career goals. For students who are beginning a career, changing careers, or returning to the job market. For students who scored 13-18 on My Vocational Situation. Supporting small group atmosphere. Discussion sessions, speakers, testing field work, and individual counseling.

Credits: 1

**Hours**

2 Seminar Hours

## **SAC 295 - Seminar in Human Potential**

Human Potential seminar centers on the person within a positive group setting while working on and with the potential of all involved. It assists persons in achieving the following: becoming more self-directed, self-motivating, self-aware, selfcontrolled, self-disciplined and empathetic toward others. The focus is on developing the person's own resources by utilizing specific and structured procedures.

Credits: 3

**Hours**

3 Class Hours

## **SIM 110 - Introduction to Simulation Technology**

A first course in Simulation Technology. Students are exposed to the hardware and software principles and applications used for simulating realworld systems. Both virtual and physical systems are explored. An introduction to the mathematics involved in real-world simulations is provided. Continuous, discrete, and distributed simulation methods are introduced. Validation of a simulation model and comparison of different simulation areas (such as vehicle, weather, medical, industrial, and entertainment) are examined.

**Prerequisite- Corequisite**

No Prerequisites.

Credits: 3

**Hours**

3 Class Hours;

**SIM 120 - Simulation Techniques**

This course introduces the student to the various mathematical methods required in different simulation scenarios (matrix transformations, algebra, trig, complex numbers), as well as open-loop and closed-loop system theory, discrete versus continuous simulation, the use of databases in simulations, and the necessary real-world physics.

Credits: 3

**Hours**

2 Class Hours, 2 Lab Hours.

**SIM 210 - Simulation Systems**

This course concentrates on the theory and operation of several major simulation system components, including input/output systems, hydraulic and electric 3-axis platforms, software rendering techniques, 2-d and 3-d graphical systems (OpenGL and DirectX), video card and graphics accelerator operation, and basic networking.

Credits: 2

**Hours**

2 Class Hours, 2 Lab Hours.

**SIM 220 - Simulation Systems Design and Senior Project**

In this capstone course, the students will develop their own original simulation system. This includes all aspects of the design, from the original system specification, to subsystem development, integration, testing, and troubleshooting. All students present their designs to the entire class for critique and review.

Credits: 2

**Hours**

2 Class Hours, 2 Lab Hours.

**SOC 110 - Introduction to Sociology**

Sociological facts and principles dealing with the scientific study of human relationships. Emphasis on analysis and study of culture and human society, socialization, groups and group structures, collective behavioral patterns and the concept of social institutions. Initial experiences for students who desire an introduction to the sociological perspective.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discuss some of the major theories and approaches to sociology.
2. Identify some fundamental sociological concepts such as culture, socialization, deviance, and stratification.
3. Describe some of the main methods of sociological research and analysis.
4. Discuss some of the major elements in social change.
5. Apply, at an introductory level, sociological concepts and methods to the understanding of selected contemporary social issues.

## **SOC 111 - Social Problems**

The sociology of social and urban problems. Topics may include crime, population, inequality, discrimination, mental illness, attitudes toward work, social control and the dynamics of social change. Students should be aware that individual instructors approach these problems in different ways, depending on students' and instructors' interests. Satisfies the civic education requirement.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discuss the concept of social problems, including the variability of social problems over time and in different societies.
2. Identify some of the major concepts and methods of sociology.
3. Apply sociological concepts and methods to the analysis of social problems.
4. Describe the nature of select contemporary social problems such as poverty, gender inequalities, youth and aging, and education.
5. Discuss and evaluate possible solutions to select social problems using concepts and methods outlined in the course.

## **SOC 220 - Race and Ethnicity**

The nature of race and ethnicity in contemporary American society will be explored through sociological concepts and methods. Social movements and conflicts and issues related to diversity and



multiculturalism will be explored.

**Prerequisite- Corequisite**

Prerequisite: SOC 110 Introduction to Sociology, or SOC 111 Social Problems, or permission of department Chair

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply sociological theories and methods to understanding race and ethnicity in contemporary American society.
2. Describe the concept of the extended family in various ethnic groups and the relation of race and ethnicity to the single parent family, immigrant families, and the dissolution of families.
3. Analyze the connections between the cultural and economic causes of gender inequality in relation to differing expectations for men and women in different groups.
4. Analyze the causes and consequences of poverty in various groups within society, and to understand the social "myths" related to poverty.
5. Use sociological ideas and methods to analyze the causes and proposed solutions to contemporary social problems in relation to concepts of race and ethnicity.

## **SOC 230 - The Family/Marriage and its Alternatives**

Social and personal factors which make for adequate family functioning, the forms the family takes, its internal processes and the functions it serves in society. Covers systematically the important theoretical and experimental ground on those issues relevant to both the scholarly and practice-minded student.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate knowledge of basic issues, methods and theories in the sociology of the family.
2. Identify social and personal factors which influence family functioning, forms and internal processes.
3. Identify the social roles of the family.
4. Identify some of the alternatives to conventional marriage and family structures.
5. Discuss current social issues relates to marriage and the family, and evaluate various responses to these issues.

## **SOC 250 - Introduction to Social Work**

Exploration of the field of social work. Introduces philosophical frameworks for the profession and examines the social welfare system. A systems approach to social issues and functions will be emphasized to provide balance between policy and practice.

**Prerequisite- Corequisite**

Prerequisites: SOC 110 Introduction to Sociology.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate an understanding of the field of social work.
2. Critically examine the social welfare system.
3. Demonstrate knowledge of the fields of practice and population service in social work.
4. Develop strategies to observe, consider, and explore social welfare issues.

## **SOC 299 - Independent Study**

An individual student project in sociology which is beyond the scope or requirements of the courses offered by the department, conducted under the direction of a faculty member and approved by the department chairperson.

**Prerequisite- Corequisite**

Prerequisite: 3 Semester Hours in Sociology.

Credits: (1-3)

**Course Profile**

Learning Outcomes of the Course:

Learning outcomes will be developed by the instructor and approved by the department chair and Dean of Liberal Arts.

## **SOS 101 - Contemporary World Issues**

An introduction to the ideas, methods, and materials (print, visual, and electronic) used in various social science fields, including history, political science, sociology, economics, anthropology, and geography. Topics will cover selected modern global issues such as that will change each semester, but which will focus on underlying issues of globalism, pluralism, democratic aspirations, and equity. Additional topics may cover issues in population, human rights, natural resources, development, conflict resolution, and cooperation. Intended for beginning liberal arts students who will take social science courses in the future. Daily newspaper reading is a core activity.

Credits: 3

**Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify some of the fundamental principles underlying current global issues.
2. Apply some of the basic concepts of the social sciences, including political science, geography, economics, and others, to an analysis of current global issues.
3. Describe select current global issues.
4. Identify various views on these issues.
5. Identify and analyze various solutions proposed for these issues.

## **SOS 111 - Public Policy**

Contemporary political issues examined in the context of American democratic institutions, practices, and beliefs. Focus on policy issues involving energy/environment, criminal justice, education, health care, and welfare. Satisfies the civic education requirement.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define some of the major concepts in the study of public policy.
2. Describe the context within which policy decisions are made, including institutional, economic, cultural, and so on.
3. Apply their general knowledge of public policy to the analysis of specific policy issues such as economic, environmental, educational, and foreign policy issues.
4. Evaluate arguments for various policy options.
5. Assess public policy as an approach to dealing with public issues.

## **SOS 116 - International Business Environments**

An overview of the social, cultural, political, and economic factors that influence the trade related interaction of nations and the operations of global business enterprises. Trade theory, economic integration, global sourcing, export-import basics, cultural awareness, and other current topics relating to international business will be covered.

Credits: 3

### **Cross-listed**

Cross-listed as BUS 116.

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Analyze data on the global nature of economic and business activity.
2. Utilize the basic strategies for entering foreign markets to assess decision-making by international business enterprises.
3. Critique political and economic systems encountered by international business.
4. Discuss cultural differences among nations and within nations along with the challenges these differences create for international business.
5. Apply international trade theory to cases involving international business.
6. Analyze and discuss current issues relating to globalization of markets and production and the consequences for businesses, workers, communities, and national policy.
7. Work with and interpret examples of protectionism as to their rationale and consequences for business, workers, communities, and national policy.
8. Research various international organizations and regional trade groups including the WTO (World Trade Organization) and European Union, using each organization's website.
9. Convert currencies and calculate the impact of foreign exchange movements on international business contracts.
10. Select appropriate strategy for managing all aspects of an international business including export/import financing.
11. Analyze the benefits and costs of different international strategies by using the Case Method.

## **SOS 120 - Science, Technology, and Democratic Society**

A study of the interaction of the forces of science and technology with the major institutions (i.e., govt., industry, family, education, and organized religion) of contemporary democratic society. Analysis of differing viewpoints on the role of a scientific technology with respect to key public policy issues (i.e., genetic engineering, fetal tissue research, pollution, space exploration, information management, weapons development, evolution/creationism debate, communications, etc.). Satisfies the Civic Education requirement.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify concepts in the social sciences relevant to the study of the social roles of science and technology.
2. Discuss the social and political context within which science and technology evolve.
3. Describe some of the major historical changes in the social roles of science and technology in Western societies.
4. Identify some of the current issues and problems in science and technology in terms of their social and political roles and influence.
5. Evaluate various solutions to problems raised by science and technology in contemporary society.

## **SOS 127 - Introduction to Conflict Resolution and Mediation**



This course will explore the dynamics of conflict; and the theory of alternative dispute resolution methods; how communication skills enhance resolution or escalate conflict; an examination of various approaches to the resolution of conflict. A major emphasis will be on the principles of mediation and skills required for effective mediation practice thus much of the course will require active class participation, including role play.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify various methods of conflict resolution and how these methods have developed historically.
2. Identify conflict as an inevitable part of life that offers opportunities for growth and responsibility.
3. Demonstrate an understanding of the importance of alternative dispute resolution in our society.
4. Describe the role that conflict plays in their personal and professional lives.
5. Identify alternatives to the court system for conflict resolution.
6. Apply ways to enhance communication skills that help them and others present their point of view.
7. Experience the mediation process as mediator and disputant.

## **SOS 155 - Media and Society**

An in-depth examination and analysis of the impacts and effects of the mass media upon society and the converse societal influences upon the media. Includes such issues as media concentration, portrayal of violence, stereotyping, the public's right to know, among others.

**Prerequisite- Corequisite**

Prerequisite: COM 100 Introduction to Mass Media or SOC 110 Introduction to Sociology.

Credits: 3

**Cross-listed**

Cross-listed with COM 154

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define some of the major concepts in media studies.
2. Describe the historic and present day forms of media.
3. Discuss the economic, political, social, and cultural context within which the media operate.
4. Identify the major functions of the media in contemporary society.
5. Analyze selected issues and problems in the contemporary media landscape.

## **SOS 171 - Contemporary Cultures**

The course is designed to provide CASS student with an understanding of the values and institution of contemporary societies. The United States is compared and contrasted with other countries. Students are expected to develop familiarity with major tools and concepts in social science disciplines to analyze both their own countries and host country social institutions.

Credits: 3

### **Note**

This course is offered for CASS students only.

## **SOS 172 - Community Organization and Development**

The objective of this course is to provide CASS scholars with the principles of community service, participation, and commitment. In this course students will learn communications, networking, and skills in influencing and mobilizing community members, as well as investigative, research, planning, and implementation tools, which are essential to serve their home communities. Special attention will be given to planned change, innovation, development, and their impact in the local society, traditional values and environment.

Credits: 3

### **Note**

This course is offered for CASS students only.

## **SPA 101 - Beginning Spanish I**

Introduces the student to the sound system and grammatical structure of the Spanish language. The focus will be on developing and raising skill levels in the areas of aural comprehension, speaking, reading and writing. Use of the target language is greatly stressed. This course will also address various cultural aspects of the Spanish-speaking world.

### **Prerequisite- Corequisite**

Prerequisite: None.

Credits: 4

### **Hours**

4 Class Hours;

### **Note**

Appropriate course for beginners. Students with two or more years of high school Spanish should enroll in SPA 102.

## **SPA 102 - Beginning Spanish II**

This course will build upon the grammatical structure of the Spanish language learned in first semester SPA 101. Speaking the language is greatly stressed at this level. Students of SPA 102 are expected to enhance the four language skills of speaking, listening, reading and writing. This course will also discuss various cultural aspects of the Spanish-speaking world.

**Prerequisite- Corequisite**

Prerequisite: SPA 101 or three years of high school Spanish or Chairperson permission. Students who have four or more years of high school Spanish may not take this class.

Credits: 4

**Hours**

4 Class Hours;

## **SPA 115 - Conversational Spanish for Law Enforcement**

This course is designed specifically for individuals who are in law enforcement. The instruction will focus on specific, oral-aural, work-related Spanish and cross-cultural studies.

Credits: 3

**Hours**

3 Class Hours

## **SPA 116 - Spanish for Business**

In doing business in Latin American, students learn basic Spanish phrases and questions necessary to carry out travel for business purposes. Discussions also cover 50 important cross-cultural issues pertinent to relationships between non-Hispanics business persons and Hispanics business leaders in Latin America.

Credits: 3

**Hours**

3 Class Hours

## **SPA 201 - Intermediate Spanish I**

One purpose of this class is to review what the student has already learned and to expand on it. This is a grammar class with an introduction to cultural and literary readings and basic research on topics related to the Spanish-speaking world. All skills (reading, Writing, listening, and speaking), as well as the three basic fields (grammar, literature, and culture), will be emphasized in the course. Speaking the language is greatly stressed at this level.

**Prerequisite- Corequisite**

Prerequisite: SPA 102 Beginning Spanish II. SPA 201 is an appropriate entry point for most students with four or more years of high school Spanish.

Credits: 3

**Hours**

3 Class Hours;

## **SPA 202 - Intermediate Spanish II**

The study of grammar and syntax will be emphasized through writing, reading, and conversation about Spanish and Latin American literary works of recognized authors. Speaking the language is greatly stressed at this level.

**Prerequisite- Corequisite**

Prerequisite: SPA 201 Intermediate Spanish 1 or Chairperson approval.

Credits: 3

**Hours**

3 Class Hours;

## **SPA 203 - Spanish in Conversation**

This conversational class will intensively emphasize oral practice in the classroom through a wide variety of topics.

**Prerequisite- Corequisite**

Prerequisite: SPA 202 Intermediate Spanish II or its equivalent.

Credits: 3

**Hours**

3 Class Hours;

## **SPA 204 - Spanish Through Its Literature: A Contact Zone**

To talk about literature is also to talk about history, culture, and experience. This course will attempt to explore the ways in which Latin American/Hispanic writers have made connections between literature and history, literature and culture, literature and experience. One of the objectives of this course is to provide students an opportunity to examine the social, historical, and culture context(s) in which Latin American/Hispanic literature is produced. That is, to open a space, a "contact zone," that will allow students to relate not only with the Spanish language but also with its literary production, its culture and its history.

Credits: 3

**Hours**

3 Class Hours



## **SPA 207 - Introduction to Latin American Literature: from the Conquest to Testimonial Narrative**

An introductory survey of Latin America's literary production with special attention to historical and social contexts. The course will include selected readings reflecting historical developments of Latin American literature from the Conquest to the "Boom" to Testimonial Narrative. The selections to be read will include works by Colon, Guaman Poma de Ayala, Bartolome de las Casas, Gabriel Garcia Marquez, Elena Poniatowska, Laura Esquivel, Isabel Allende, Vargas Llosa, Cortazar, and Carmen Cecilia Suarez.

Credits: 3

### **Hours**

3 Class Hours

## **SPK 106 - English as a Second Language Speaking & Listening 4**

Spoken American English for non-native speakers at the high-intermediate to advanced level. Further development of speaking, critical listening, and note-taking proficiency for full participation in academic, professional, and social situations. Understanding of rhetorical patterns of formal, spoken English and lectures from diverse disciplines.

### **Prerequisite- Corequisite**

Prerequisites: ESL 113, ESL 114 and ESL 115, ESL Placement Test or departmental approval.

Corequisite: ENG 106

Credits: 4

### **Hours**

4 Class Hours;

## **SPK 110 - Effective Speaking**

Speech communication through voice, words, and action. Voice production, diction, platform presence. Organization of ideas. Practice in presenting speeches of different types.

Credits: 3

### **Hours**

3 Class Hours

## **SPK 203 - Advanced Speaking**

Designed so students can review what they have learned in SPK 110 Effective Speaking, learn advanced techniques for informative and persuasive speaking, learn techniques for special speaking occasions. Involvement in a debate as a means of perfecting research techniques, impromptu speaking skills and the processes of logical thinking and organizing.

**Prerequisite- Corequisite**

Prerequisite: SPK 110 Effective Speaking.

Credits: 3

**Hours**

3 Class Hours;

**SPK 299 - Independent Study: Speech**

An individual student project concerned with advanced work in a specific area of speech. Conducted under the directions of a faculty member, independent study is concerned with material beyond the scope and depth of the ordinary course.

**Prerequisite- Corequisite**

Prerequisite: 3 Semester hours of college level work in Speech.

Credits: (1-3)

**SQC 111 - Acceptance Sampling and Reliability**

A study of acceptance sampling techniques for attributes and reliability analysis. Operating characteristic curves, lot-by-lot acceptance plans based on LTPD, AOQL and AQL, sequential sampling, continuous sampling. Introduction to exponential, log-normal, and Weibull distributions, failure rate, MTBF, MTTF, mean life, probability of survival for series, parallel, and complex systems, basics of life testing.

**Prerequisite- Corequisite**

Prerequisite: MAT 124 Statistics I or equivalent.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon the completion of this course the student will be able to:

1. Discuss the rationale for acceptance by sampling.
2. Construct an operating characteristic curve for an attribute plan.
3. Construct lot-by-lot sampling plans using Dodge-Romig LTPD and AOQL tables and ANSI/ASQC Z1.4 tables.
4. Develop sampling plans using the Wald Sequential Probability Ratio Test.
5. Develop lot-by-lot plans for specified producer and consumer risks and AQL and LTPD values and interpret.
6. Construct Sequential Sampling plans and Continuous Sampling plans.
7. Define fundamental concepts in reliability.
8. Work with the exponential, Weibull, and log-normal distributions.

9. Compute failure rate, mean life, MTTF, MTBF.
10. Compute the reliability of series, parallel, and series-parallel systems.
11. Explain the basic principles of life testing.

## **SQC 112 - Metrology**

The study of the science of measurement. This course will deal with the principles and practice of precision measurement. Topics to include fixed gages, micrometers, verniers, thread gaging, comparison measurement, optical measuring instruments, calibration and angle measurement.

### **Prerequisite- Corequisite**

Prerequisite: MAT 124 Statistics I or MAT 136 College Algebra and Trigonometry.

Credits: 3

### **Hours**

3 Class Hours;

## **SQC 113 - Statistical Process Control**

A study of process capability analysis and control chart procedures. Capability indices, control charts for attributes  $p$ ,  $np$ ,  $c$ ,  $u$ . Short-run control charts. Control charts for variables  $\bar{x}$ ,  $R$ ,  $s$ . Distinctions made between process capability and process control.

### **Prerequisite- Corequisite**

Prerequisite: MAT 124 Statistics I or MAT 260 Applied Probability and Statistics.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Discuss the differences between specification limits and control limits.
2. Construct  $\bar{x}$ ,  $R$ ,  $s$ ,  $\bar{x}$ , and moving range, charts, and analyze the results.
3. Construct  $p$ ,  $np$ ,  $c$ , and  $u$  charts and analyze the results.
4. Construct Cusum charts for means and proportions.
5. Determine which control charts are appropriate for various applications.
6. Construct short run control charts for attributes and variables.
7. Define, compute, and interpret process capability indices.
8. Discuss rational subgrouping and its effect on analysis.

## **SQC 200 - Senior Seminar I**

Guest Speakers discuss common problems quality assurance students encounter. Student contact with industry is established through field trips.

Credits: 1

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the general principles and successful implementation of a QA program.
2. Demonstrate how to contact and speak with QA professionals in various industries.
3. Identify components of an existing organization's QA program.
4. Demonstrate how to assess an existing organization's QA practices.
5. Relate theoretical Quality Assurance principles to existing QA practices in various industries.
6. Compare QA principles and practices between organizations in the same and in different industries.
7. Provide an opportunity for students to question QA professionals concerning issues such as:
  - The position of the QA department in their employers' organizational charts.
  - The best methods for interacting with others within a quality department and among various other departments of an organization.
  - Managing employees who may be very diverse in terms of skills, education, and demographics.
  - The role of communication and teamwork in the pursuit of quality and ideas for facilitating communication and teamwork.

## **SQC 201 - Senior Seminar II**

A continuation of the topics covered in SQC 200. Guest Speakers discuss common problems quality assurance students encounter. Student contact with industry is established through field trips.

Credits: 1

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Understand the general principles and successful implementation of a QA program.
2. Demonstrate how to contact and speak with QA professionals in various industries.
3. Identify components of an existing organization's QA program.
4. Demonstrate how to assess an existing organization's QA practices.
5. Relate theoretical Quality Assurance principles to existing QA practices in various industries.
6. Compare QA principles and practices between organizations in the same and in different industries.
7. Provide an opportunity for students to question QA professionals concerning issues such as:
  - The position of the QA department in their employers' organizational charts.



- The best methods for interacting with others within a quality department and among various other departments of an organization.
- Managing employees who may be very diverse in terms of skills, education, and demographics.
- The role of communication and teamwork in the pursuit of quality and ideas for facilitating communication and teamwork.

## **SQC 210 - Six Sigma Topics**

This course introduces Six Sigma concepts that complement those found in the other SQC courses. Topics include: business systems, processes, and performance metrics. The analysis of customer data and application of QFD studies. Project planning and control techniques. Quality improvement tools, multi-vari, CUSUM, and EWMA charts. Mixture, Taguchi's designs, and evolutionary operations. Lean concepts, continuous flow manufacturing, cycle-time reduction, total productive maintenance. Tolerance design and capability analysis.

### **Prerequisite- Corequisite**

Prerequisite: SQC 113 Statistical Process Control

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define Six Sigma, business systems and processes.
2. Define process performance metrics, such as DPMO, COPQ.
3. Analyze customer data and translate by Quality Function Deployment (QFD).
4. Define project management tools and team formations.
5. Use project planning and control tools, such as PERT, CPM.
6. Perform quality improvement tools, such as multi-vari charts, mixture experiments, and evolutionary operations.
7. Use advanced statistical control techniques, such as CUSUM and EWMA charts.
8. Define lean enterprise concepts, such as continuous flow manufacturing and total productive maintenance.
9. Define design for Six Sigma tools.
10. Perform tolerance design and process capability studies.

## **SQC 220 - Senior Practicum**

This course is designed to allow students to integrate their theoretical knowledge with real world situations. Working in teams, students are assigned to case studies involving actual or fictitious data. The course emphasizes computer usage, classroom presentations, and written reports. ISO 9000 Standards and problem solving techniques including Pareto diagrams, process flowcharts, check

sheets, brain-storming, cause-and-effect diagrams, and multi-voting schemes are discussed.

**Prerequisite- Corequisite**

Prerequisites: MET 112 Metrology, SQC 111 Acceptance Sampling Techniques, SQC 113 Statistical Process Control, MAT 245 Design of Experiments

Corequisite: SQC 210 Six Sigma Topics

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Apply problem solving skills and knowledge gained in other quality assurance classes to real world situations.
2. Demonstrate awareness of the contents of ISO 9001.
3. Use a computer as a tool for statistical analysis.
4. Use the computer to generate reports.
5. Function as a member of a working team.
6. Participate in team oral presentations.
7. Compile team reports.

## **SQC 244 - Reliability and Life Testing**

Fundamentals of probability, probability distributions, discrete distributions: binomial, hypergeometric, Poisson, Pascal, continuous distributions: normal, exponential, gamma, log-normal, Weibull. Introduction to reliability, failure rate, MTBF, MTTF, mean life, probability of survival for series systems and parallel redundant systems, basics of life testing based on preassigned number of failures and preassigned time, SPRT, maintainability, availability, and MTTR.

**Prerequisite- Corequisite**

Prerequisite: MAT 124 Statistics I.

Credits: 3

**Hours**

3 Class Hours;

## **SQC 297 - Cooperative Work Experience**

Cooperative education in Quality Assurance may be available. On-the-job experience may be obtained in an industrial setting whose operations require process control, statistical analysis, problem solving skills, or other tools of Quality Assurance. To be eligible, a student must maintain a cumulative grade point average of at least 2.5 with a minimum of 3.0 in MAT and SQC courses, have no "F" grades, and exhibit responsibility through SQC 100/200 orientation.

**Prerequisite- Corequisite**

Prerequisite: Placement by advisor.

Credits: (1-3)

**TEC 100 - Introduction to Technology**

This course introduces students to engineering technology, career opportunities, transfer opportunities, study skills and college services. An association with industry is established through field trips and/or guest speakers involving industry personnel. The concept of teamwork is discussed and practiced.

Credits: 0.5

**Hours**

1 Class Hour

**Course Profile**

Learning Outcomes of the Course:

After successful completion of this course the student will be able to:

1. Understand their field of engineering technology along with the transfer and employment opportunities available upon graduation.
2. Understand the advising and registration process through the development of an academic plan for their program of study.
3. Understand the available college services and success strategies necessary for completing college level programs.
4. Understand the research process through the use of both library and internet sources.
5. Understand the concept of teamwork and how to collaborate and work effectively in teams.

**THR 101 - Theater Appreciation: The Image Makers**

This course surveys the history and evolution of drama from Ancient Greece to the present time, emphasizing all aspects of the art form including playwriting, acting, directing, scene design, and an analysis of dramatic literature. Attendance at local productions is required.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Appreciate theater as an art form and differentiate it from other art forms.
2. Write about and analyze the parts of a play including Aristotle's six parts.
3. Define characteristics of theater in various periods of history.

4. Explain the organizational process involved in bringing a play to a fully staged theatrical production.
5. Recognize the aspects of theater including artistic, production and administrative.
6. Define the roles/responsibilities of all the personnel who mount a theater production including directors, designers, actors, etc.
7. Practice critical analysis of live and recorded theatrical productions.
8. Analyze form, context and aesthetic qualities of dramatic literature and performances.

## **THR 102 - Introduction to Musical Theatre**

Chronological history of American Musical Theatre (with contemporary British additions) from 19th century minstrelsy, melodrama, vaudeville and burlesque to the present day Broadway musical. Interaction of composer, lyricist, librettist, director, choreographer, performers and technicians. Illustrated by films, slides and live performances.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define the evolution of the American musical from the 19th century to the present.
2. Identify the roles played by the various migrating groups to America in shaping the art form.
3. Recognize and define the roles of the composer, lyricist, and book writer.
4. Recognize and define the contribution made to the production by the director, choreographer, stage designer, costume designer, sound designer, etc.
5. Explain how musical theater reflects the culture and period in which it occurs.

## **THR 109 - Practicum Theater**

Stage design and construction techniques are studied as students engage in problem solution, system design and assist with theater department productions. Problems in construction and use of theater equipment and facilities; movable scenery and non-permanent stage equipment; sound and lighting systems. Lecture, discussion, studio work.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Define the various collaborative roles necessary to produce a play.
2. Demonstrate increased knowledge of the carrying through of technical production projects including organization, deadlines, etc.



3. Write about and discuss the terminology used in theatrical production.
4. Demonstrate a specific collaborative skill in the design, technical or management area of theater.

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### **Hours**

3 Class Hours

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Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

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2. Demonstrate increased knowledge of the carrying through of technical production projects including organization, deadlines, etc.
3. Write about and discuss the terminology used in theatrical production.
4. Demonstrate a specific collaborative skill in the design, technical or management area of theater.

## **THR 111 - Introduction to Acting**

Fundamental principles of acting technique are introduced. Exercises for body and voice are practiced as well as the skills of concentration, improvisation, imagination, sense memory, objectives, action, obstacles and circumstances. Excellent for students in disciplines other than theater who wish to explore how acting techniques can enhance their life and work.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Use their voice and body (actor's tools) for effective performance skills.
2. Practice Stanislavsky's elements i.e. concentration, observation, imagination, etc.
3. Demonstrate the elements of a dramatic scene.
4. Explore the language and stories of Shakespeare.
5. Define the history of the acting profession and the "business" of acting.
6. Define the different skills needed for film vs. stage acting.

## **THR 112 - Acting II**

This is an intermediate course for those who wish to continue the study of the acting process in greater depth. "Method" and classical approaches are employed for an actor's approach to a role; text and character analysis of various dramatic genres. For a basic foundation, students work with the works of major playwrights including Shakespeare.

### **Prerequisite- Corequisite**

Prerequisite: THR 111 Introduction to Acting or consent of Instructor by audition.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Be proficient in the skills of relaxation/concentration/observation/improvisation/imagination.
2. Practice voice and movement exercises to help develop their physical "instrument."
3. Analyze and write about the elements of dramatic material such as character, objectives, physical and emotional circumstances and actions.
4. Identify and write about acting theory as it developed over time including the methods, directors, actors and teachers involved.
5. Perform, recite and interpret the heightened language of Shakespeare.
6. Create a life for a character from dramatic literature.
7. Discuss and write about the development and history of the acting profession.
8. Employ a basic knowledge of the "business" of acting.

## **THR 114 - Oral Interpretation**

Oral presentation of prose, poetry, drama and comedy performed individually and in groups.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Acquire the performance skills necessary to share a believable, honest and clear interpretation of a literary work with an audience.
2. Analyze and understand the meaning of selected works of literature.
3. Apply their own life experience to performance of texts.
4. Evaluate and critique the oral interpretative skills of others.
5. Use constructive collaborative skills as a result of the team spirit needed to work with a group or partner on an interpretative project.

## **THR 117 - Creative Dramatics**

Fundamentals of creative dramatics, its use in teaching, recreation and rehabilitation. Introduction to techniques used and practical application opportunities.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Practice the elements of drama such as voice/body utilization, imagination, improvisation, etc.
2. Utilize interpersonal skills and confidence in their own instincts by applying dramatic techniques.
3. Demonstrate dramatic techniques as a teaching/learning tool.
4. Practice dramatic techniques of improvisation and role playing for the purpose of problem-solving.
5. Evaluate the effectiveness of dramatic exercises.
6. Conceptualize theatrical productions as a whole.
7. Demonstrate knowledge of instructional strategies through practice and creating a lesson plan.

## **THR 140 - Announcing for Radio/TV**

Presentation as on-air personality. Development of visual and vocal techniques relating to presentation of news, interviews, commercials and on-air announcements.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Formulate techniques of effective on-camera presentation, including posture, dress and presence.
2. Demonstrate knowledge of phonetic spellings and pronunciations.
3. Utilize voice skills for on-camera/microphone work and differentiate between the two.
4. Demonstrate various announcing styles.
5. Define and utilize equipment commonly used by announcers.
6. Acquire necessary skills to read and perform from scripts prepared by other writers.
7. Explain FCC rules that effect announcers.

## **THR 151 - Technical Production I**

Classroom and workshop study relative to technical elements of theater production. All aspects are introduced and can be practiced including costume design and construction, stage lighting design and mechanics, sound design, props and stage management. Lecture, discussion and studio work on theater department productions.

Credits: (1-4)

**Hours**

2 Class Hours, 1-4 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Assist in designing a model and set for a full-fledged theater production.
2. Practice with hand tools commonly found in theater scene shops.
3. Aid in constructing scenery from working drawings.
4. Choose the appropriate materials and hardware for scenic construction.
5. Identify the basic types of theater spaces and their differences in staging.
6. Express a basic knowledge of theatrical technology.
7. Define the roles and responsibilities of individuals involved in theatrical production.
8. Be somewhat proficient in one or more of the technical aspects of a theater production in costumes, props, scene design, lighting or sound.

## **THR 152 - Technical Production II**

Classroom and workshop study relative to technical elements of theater production. Particular emphasis is on stage management, house management, props and operation of stage crews. Lecture, discussion and studio work on theater department productions.

Credits: (1-4)

**Hours**

2 Class Hours, 1-4 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Assist in designing a model and set for a full-fledged theater production.
2. Practice with hand tools commonly found in theater scene shops.
3. Aid in constructing scenery from working drawings.
4. Study the skills needed to properly fulfill the position of stage manager, house manager, prop master, costume master, etc.
5. Identify the basic types of theater spaces and their differences in staging.
6. Express a basic knowledge of theatrical technology.
7. Define the roles and responsibilities of individuals involved in theatrical production.
8. Be somewhat proficient in one or more of the technical aspects of a theater production in costumes, props, scene design, lighting or sound.

## **THR 161 - Playwriting**

Students will practice writing for the stage in a format of lecture/seminar and workshop. Playwriting involves elements of dramatic action, character, plot, structure, story, style, conflict and staging suitability.



**Prerequisite- Corequisite**

Prerequisite: ENG 110 College Writing I or ENG College Writing II.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Write "conflict," "dramatic action," and "critique" plays in short, summary annotations.
2. Critically analyze and interpret theatre as dramatic "action."
3. Analyze plays in terms of dramatic components of P.A.S.T.O: Preparation, Attack, Struggle, Turning Point, Outcome.
4. Analyze plays from a playwright's point-of-view about story and dramatic action.
5. Recognize differences of "style"--lyricism, realism, naturalism, expressionism; epci.
6. Properly format a one-act play script and possibly write and revise a one-act play, 15-20 pages.
7. Use critical writing skills which comply with and meet standards of writing emphasis.

**THR 165 - Dance for Actors I**

Basic dance techniques, dance characterization, and movement relative to performance in musical theater.

Credits: 1

**Hours**

8 Class Hours, 22 Laboratory Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Practice movement techniques that develop musicality and rhythmic skills.
2. Perform choreography that contains simple rhythmic changes.
3. Develop greater strength, stretch, and range of mobility.
4. Approach all training, practice and performance from an anatomically correct standpoint.
5. Expand his/her expressive range of movement and performance.
6. Define dance (jazz, ballet, etc.) and its vernacular roots through performing historical and present day styles.

**THR 175 - Dance for Actors II**

Intensive dance techniques, dance characterization, and movement relative to performance in musical theater.

Credits: 1

**Hours**

8 Class Hours, 22 Laboratory Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Practice skills in movement including strength, flexibility, balance, control, musicality, and confidence in dancing in front of an audience.
2. Develop musicality and rhythmic skills through performing choreography that contains complex rhythmic changes.
3. Explain the history of dance (jazz, ballet, etc.) and its vernacular roots.
4. Practice spatial awareness through performing choreography that incorporates directional changes, diverse floor patterns and movements that demand expansion and retraction of the body.
5. Define new ways of approaching movement and will be encouraged to utilize these paths to enhance their movement experience.

## **THR 201 - Children's Theater**

Analysis of children-oriented plays, development of scripts, rehearsal and performance techniques. Performance either in campus theater or at area elementary schools for classtime and assembly programs and visiting with children pre/post performance.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Practice acting techniques particular to performing for children.
2. Strengthen their voice and body skills as performers.
3. Articulate the characters, period, author and other aspects of selected dramatic material.
4. Adapt dramatic material to the needs and skill levels of different age groups.
5. Evaluate children's theater plays in order to analyze the dramatic text in action.

## **THR 202 - Children's Theater**

Touring children's theater company during academic year. Performances at area elementary schools for classtime and assembly programs. Visiting with students pre/post production. Design and construction of costumes, sets, and properties. Analysis of children-oriented plays, development of scripts, rehearsal and performance.

Credits: 3

### **Hours**

3 Class Hours Each

## **THR 216 - Special Topics in Theater**

Course will allow an in-depth examination of a critical topic, skill, or creative process as it applies to the study of theater.

### **Prerequisite- Corequisite**

Prerequisite: Permission of theater coordinator/chair.

Credits: (1-3)

### **Hours**

1-3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

The Learning Outcomes will differ depending on the topic, skill or creative process that is taught.

## **THR 218 - Acting III**

The purpose is to serve interested students who wish to continue the study of acting in greater depth. More advanced acting methods and styles are explored and practiced. Scene presentations are required along with accompanying written analysis.

### **Prerequisite- Corequisite**

Prerequisites: THR 111 Introduction to Acting and THR 112 Acting II or permission of Coordinator.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Create an original, crafted performance of a character in a dramatic scene and monologue.
2. Incorporate studies in Method theory and process as it relates to acting.
3. Articulate a thorough knowledge of the history of the acting profession, its great acting teachers, plays and playwrights.
4. Prepare an analysis of a play, scene and character.
5. Interpret and perform the heightened language of Shakespeare.
6. Practice and incorporate skills in physical actions, relaxation, concentration, observation, improvisation, as well as exercises of Uta Hagen, Lee Strasberg, Jerzy Grotowski, Tadashi Suzuki, etc.

## **THR 219 - Periods and Styles of Acting**

The study and practice of period and contemporary styles of acting.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Identify the historical periods and styles of acting.
2. Define and write about the playwrights, performers and directors from selected periods and their role in theater history.
3. Practice the progression of rehearsal and performance techniques for each period/style of acting.
4. Interpret, perform and practice the techniques and styles for a given period for an audience.
5. Speak and write on the aspects of any given period/style of acting.

## **THR 221 - History of the Theater**

History of theatrical production with selected periods of theater activity as a mirror of social and cultural experience from ancient times to the present.

Credits: 3

**Hours**

3 Class Hours

**Note**

Good for students from all disciplines.

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain and write about aspects of historical periods of theater from the Greek and Roman to the contemporary.
2. Speak and write about individual playwrights and their reflection of a given period of history.
3. Articulate theater epochs in terms of the styles, movements and plays specific to each period.
4. Explain their knowledge of recorded history in general with its political, sociological and artistic movements.
5. Use critical writing skills which comply with and meet standards of writing emphasis.

## **THR 222 - History of the Theater II**

History of stage production from the 18th Century to the present, with attention to the contribution of dramatic literature and the fine arts to stage development.

Credits: 3



**Hours**

3 Class Hours

**THR 231 - Stage Direction**

Director's art is examined in relation to the physical space, the actors and the texts. Casting, pictorial emphasis, harmony, rhythm and rehearsal and production procedures are covered. Students will direct a scene, fifteen minute play or one-act play.

**Prerequisite- Corequisite**

Prerequisites: THR 111 Introduction to Acting, THR 112 Acting II or consent of Coordinator.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Select plays and participate in the analyzing of scripts to be produced.
2. Demonstrate the importance of organization as well as the development of calendars, set designs, ground plans, costume plots, prop lists, performance cues, and a director's script.
3. Direct scenes for various theatrical genres including drama, comedy, Shakespeare, Children's Theater, Musicals, etc.
4. Discuss and write about the great theater directors and their methods.
5. Demonstrate an awareness of the techniques of movement, blocking, rhythm, tempo, pacing, stage pictures, pantomimic dramatization and focus.
6. Identify the basic types of theater spaces and their differences in staging.
7. Practice one or more of the technical aspects of a theater production in costumes, props, scene design, lighting or sound.
8. View and critique the direction of live stage and film productions.

**THR 246 - Rehearsal and Performance for Stage**

Casting, rehearsing and acting in made-for-stage drama and comedy scripts.

**Prerequisite- Corequisite**

Prerequisite: Audition or permission of Instructor.

Credits: 3

**Hours**

3 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Solve problems that naturally arise from a collaborative art such as theater in helping set priorities, tasks, deadlines, rehearsal discipline and process, etc.
2. Define the progression of rehearsal and performance techniques from play selection and first read-through all the way to set strike and post mortem.
3. Follow the necessary steps of the working "process" that brings a script alive on the stage.
4. Carry out specific skills relevant to the function fulfilled in the production such as: acting, assistant directing or stage managing, costume management, play/period research, house management, set design, construction, lighting, sound, set decorating and props creation.
5. Speak and write on the process of rehearsal and performance for a full-fledged semi-professional theatrical production.
6. Practice one or more of the technical aspects of a theater production in costumes, props, scene design, lighting or sound.

## **THR 255 - Improvisational Acting/ Psychodrama**

Spontaneously developed acting sequences to mirror real-life situations. Techniques of character, interaction with audiences. Possible performances at local agencies, schools and pertinent organizations.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Utilize improvisational acting exercises for performance.
2. Articulate acting history, theory and vocabulary.
3. Demonstrate vocal and movement capabilities in order to perform improvisation.
4. Define the introductory exercises of improvisation.
5. Interpret the exercises in order to perform effective improvisation.
6. Take part in an improvisational ensemble.
7. Identify and practice beginning acting exercises as the foundation of improv technique, including warming up.

## **THR 256 - Rehearsal and Performance for Stage**

Casting, rehearsing and acting in made-for-stage drama and comedy scripts.

### **Prerequisite- Corequisite**

Prerequisite: Audition or permission of Instructor.

Credits: 3

### **Hours**

3 Class Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Solve problems that naturally arise from a collaborative art such as theater in helping set priorities, tasks, deadlines, rehearsal discipline and process, etc.
2. Define the progression of rehearsal and performance techniques from play selection and first read-through all the way to set strike and post mortem.
3. Follow the necessary steps of the working "process" that brings a script alive on the stage.
4. Carry out specific skills relevant to the function fulfilled in the production such as: acting, assistant directing or stage managing, costume management, play/period research, house management, set design, construction, lighting, sound, set decorating and props creation.
5. Speak and write on the process of rehearsal and performance for a full-fledged semi-professional theatrical production.
6. Practice one or more of the technical aspects of a theater production in costumes, props, scene design, lighting or sound.

## **THR 266 - Acting for TV, Film, and Commercials**

Proficiency in performing before the camera. Character analysis, quick study, re-takes, voice-overs, studio projection, facial nuances, and subtlety of mannerism.

Credits: 3

### **Hours**

2 Class Hours, 2 Studio Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Demonstrate skills and exercises involved in the art and craft of acting for the camera such as listening, concentration, relaxation, energy, spontaneity, character development.
2. Dissect and analyze a script with circumstances, character, events and objectives.
3. Interpret a script by using sub-text, scoring, intention, etc.
4. Analyze and critique the work of those working in the industry.
5. Speak and write intelligently on the theories and terminology used in the business of acting for the camera.

## **THR 276 - Rehearsal and Performance for Television**

Casting, rehearsing, and acting in made-for-television and film, dramatic and comedy scripts.

### **Prerequisite- Corequisite**

Prerequisite: Permission of Instructor.

Credits: 3

### **Hours**

3 Class Hours; 2 Class Hours, 2 Studio Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Perform single-camera acting techniques for acting in film and TV.
2. Perform actors' skills for a master shot and close-up shot.
3. Utilize on-camera blocking, business, subtext, and reactions.
4. Define and practice the differences between stage and film acting.
5. Audition for on-camera acting scenes.
6. Analyze and critique the work of those working in the industry.

## **THR 286 - Shakespeare for Actors**

A beginning course in the actor's approach to working with Shakespeare's characters, language and themes for monologues and scene study. Students will explore their skills in movement, voice, text analysis and action as it relates to bringing Shakespeare's characters and plays to life.

### **Prerequisite- Corequisite**

Prerequisites: THR 111 or THR 112 or consent of Coordinator.

Credits: 3

### **Hours**

3 Class Hours

## **THR 299 - Independent Study: Theater**

An individual student project concerned with advanced work in a specific area of theater. Conducted under the direction of a faculty member, independent study is concerned with material beyond the scope and depth of the ordinary course.

### **Prerequisite- Corequisite**

Prerequisite: 3 Semester hours of college level work in theater.

Credits: (1-3)

### **Course Profile**

Learning Outcomes of the Course:

Learning outcomes are specified on an individual basis.

## **TLC 110 - Telecommunications I**

An introduction to the techniques, principles, and terminology of voice telecommunications are presented. Public and private telecommunication networks are examined. Telecommunication equipment, switching and transmission technology are studied. Frequency spectrum, transmission media, modulation schemes, and multiplexing techniques are explored.



**Prerequisite- Corequisite**

Prerequisite: EET 122 Electrical Circuits

Co-requisite: EET 151 Introduction to Electronics.

Credits: 4

**Hours**

4 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe fundamental concepts of telecommunications such as bandwidth, channel capacity, and data rates.
2. Explain basic communications concepts such as multiplexing, switching, modulation, and analog/digital conversion.
3. Describe basic communication circuits and systems, including networks, telephone equipment, switches, modems, and transmissions media.
4. Calculate communications parameters such as decibels, signal-to-noise ratio, signal bandwidth, and channel capacity.
5. Express concepts in language appropriate to the telecommunications field.
6. Be proficient in the use of basic telecommunications test equipment.

**TLC 120 - Telecommunications II**

This course is designed to train students in the organization, architecture, setup, maintenance, hardware and software aspects of local area networks. Topics include: introduction to networks; types and characteristics of different network architectures and network topologies; intra and inter-network devices; network operating systems; peer-to-peer and client/server environments; LAN setup and maintenance, network printing; internal web server. A hands-on approach will be taken, with team projects throughout.

**Prerequisite- Corequisite**

Prerequisite: TLC 110 Telecommunications I, EET 169 Digital Systems II

Co-requisite: EET 152 Communications Electronics.

Credits: 4

**Hours**

4 Class Hours

**Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Describe the organization, operation, setup, and maintenance of a local area network.
2. Explain the types and characteristics of different network architectures and topologies.
3. Describe the hardware aspects of a LAN: the purpose and function of LAN intra and interconnecting network devices.
4. Describe the OSI reference model and the functions of LAN protocols.

5. Explain the characteristics of different network operating systems, and the peer-to-peer and client/server environments.
6. Use network analysis software and hardware to view, verify, and troubleshoot network traffic conditions.
7. Demonstrate competencies in application of projects in a networked environment.

## **TLC 210 - Telecommunications III**

This course is designed to enhance and broaden topics on LANs that were introduced in Telecommunications II, as well as introduce new concepts with respect to Wide Area Networks (WANS). Among the topics that are discussed are: advanced TCP/IP concepts, WAN standards and topologies, network management issues and network security issues. Additionally, students will tackle the setup, deployment and configuration of advanced models of file, mail and DNS servers as well as other concepts.

### **Prerequisite- Corequisite**

Prerequisite: TLC 120 Telecommunications II

Credits: 4

### **Hours**

3 Lecture Hours, 2 Lab Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Setup, configure, and implement complex network server technologies such as file, mail, and DNS.
2. Explain and institute network security policies.
3. Understand and deploy network segmentation and complex subnetting techniques.
4. Describe as well as demonstrate the concepts of LAN and WAN administration.
5. Describe and understand the risks and benefits of remote access and administration software as it relates to LANs as well as WANs.
6. Discuss, describe and understand teamwork concepts as well as management roles with respect to LAN administration as well as WAN administration.

## **TLC 220 - Telecommunications IV**

A survey of current and emerging technologies in Telecommunications will be presented. Lectures, interactive learning, demonstrations, and site visits will be employed.

### **Prerequisite- Corequisite**

Prerequisite: TLC 210 Telecommunications III

Credits: 4

### **Hours**

3 Lecture Hours, 2 Lab Hours

### **Course Profile**

Learning Outcomes of the Course:

Upon successful completion of this course the student will be able to:

1. Explain advanced telecommunication techniques and principles.
2. Describe current and future communication services and their applications.
3. Identify sources of information and reference material for current and emerging technologies.
4. Articulate concepts of advanced networks and services.
5. Explain security concepts including encryption, authentication, key technology and digital certificates.
6. Further develop the following course competencies: problem solving, teamwork, project leadership, quality, contextual learning, technology and service delivery, and customer focus.





# Affiliate Organizations

## Section 13



# College Affiliate Organizations

- Faculty-Student Association of BCC, Inc.
- BCC Foundation
- Greater Broome Tech Prep

## Faculty-Student Association of BCC, Inc.

[^top](#)

GARY B. FINCH, Executive Director

A.A.S., Broome Community College

B.S., Binghamton University

DONNA M. FIRENZE, Director - College Bookstore

A.A.S., Broome Community College

NANCY SELIGA, Director - The B.C. Center (Child Care)

A.A.S., Maria Regina College

## BCC Foundation

[^top](#)

JUDY U. SIGGINS, Executive Director

B.A., M.A., Ph.D., University of Chicago

## Greater Broome Tech Prep

[^top](#)

Staff Assistant - vacant at printing

## EMERITUS COLLEGE STAFF

|                         |                      |                     |
|-------------------------|----------------------|---------------------|
| James Abbott            | Francis Casella      | Carmen DeVita       |
| Richard E. Baldwin      | Dr. Allan C. Cave    | Bruce Devoe         |
| Robert B. Beers         | Paul Chambers        | Margaret Deys       |
| Patricia Begasse        | Herbert Church-Smith | Mary Diegert        |
| Alan Bennett            | Ann M. Cleary        | Frank DiStefano     |
| Rebecca Bennett         | Denton Covert, Jr.   | Alan C. Dixon       |
| Patricia Bernadt-Durfee | Charles Croll        | Edward F. Dougherty |
| William Beston          | Thaddeus Czupryna    | Patricia Durfee     |
| Joseph Biegen           | Charles Dahill       | Herbert L. Durst    |
| Maximillian Borski      | Edwin Daub           | Blaine K. Ellis     |
| James Boyden            | Bonnie Deister       | Florence Ewanow     |
| John Butchko            | Janet Denman         | James Fish          |
| Robert L. Cann          | William Dervay       | Brendan Flynn       |

Joan Foley  
Marion A. Forbes  
Robert Forsythe  
Sarah Frankland  
Gerald Freeman  
Joseph K. Gay  
Ernest Giordani  
Morton Goldberg  
Karen Goodman  
Howard Herzog  
Harold Hickey  
George Higginbottom  
Mary Ellen Hogan  
Rita Hogan  
Ralph Holloway  
Evelyn Katusak  
Robert Keller  
Carmelita Keyes  
Milton Kirkpatrick  
Stephen Korducavich  
Barbara Kramer  
Janet Kuhns  
Mary Kushner  
Ludwig P. Lange  
Stanley Lee  
Mary A. Lehman  
Richard J. Leo  
David Levee  
Claire Ligeikis-Clayton  
Russell Littlefield  
Anthony LoTempio  
Jane Lozier  
Margaret Luciano  
R. Bruce MacGregor  
Jo Anne Maniago  
Elizabeth Marecek  
William Matechak  
Roger McVannan  
Joseph Milensky  
Mary Ellen More  
Patricia Newland  
Barbara Nilsen  
Michael T. Orinik  
Shirley Osmun  
Joseph Petrone  
Harry D. Prew  
Marguerite Raboy  
Robert Reid  
Richard Remizowski  
Charles Ricker  
Douglas W. Rittenhouse

Jonathan Rook  
Richard Romano  
Mary Rosato  
Ann Scott  
Irvin C. Simser  
Gregory Sliwa  
Gary Smith  
Ann Sova  
Stephen G. Steele  
David Sterling  
Richard Stoner  
Ruth Stratton  
Suzanne Sullivan  
Harold Sunshine  
Carl Taylor  
Edward F. Troicke  
D. Elsie Wager  
David Walsh  
Dorothy Walsh  
Patricia Weller  
Ozmun Winters  
Angelo Zuccolo



# Academic Calendar

## Section 14



# Academic Calendar

## Important Dates

Please note: Dates may be subject to change.

### SPRING 2009

|                |  |
|----------------|--|
| January 7      | Tuition for Spring 2009 semester due   |
| January 9      | Drop for non-payment of Spring 2009 tuition  |
| January 16     | Last Day 100% refund, Spring 2009  |
| January 19     | Martin Luther King, Jr. Day - BCC Closed   |
| January 20     | Classes begin, Spring 2009 semester  |
| January 26     | Last Day 75% tuition refund  |
| January 27     | "W" grading period begins for 1/2 semester PED courses   |
| February 2     | Last Day 50% tuition refund  |
| February 6     | College on the Weekend Program begins<br>Last day for 100% refund College on the Weekend program only  |
| February 9     | Last Day 25% tuition refund  |
| February 10    | "W" grading period begins for full term courses  |
| February 13    | Last day for 75% refund, College on the Weekend program only   |
| February 18-20 | Mid-Semester Break   |
| February 27    | "F" grading period begins for 1/2 term PED courses<br>First 5 weeks attendance due for full term courses<br>5 weeks attendance due for 1/2 term PED courses  |
| February 28    | "W" grading period begins for College on the Weekend program only  |
| March 2        | Trailer courses begin  |
| March 16       | "W" grading period begins for trailer courses only   |
| March 16       | Graduation Applications due for May & August 2009 candidates   |
| March 17       | Convocation Day - No day or evening classes  |
| March 18       | 2nd half term PED courses begin<br>Mid-term grades due   |
| March 26       | "W" grading period begins for 2nd half term PED courses  |
| March 30       | Fall 2009 registration begins for continuing students only   |
| April 3        | Last day for "W" grade - full term courses   |
| April 6        | "F" grading period begins for full term courses and College on the Weekend program<br><br>Second 5 weeks attendance due for full term courses, 2nd half PED courses and College on the Weekend program |
| April 12       | Easter Sunday  |

|             |   |
|-------------|---|
| April 13-17 | Spring Break  |
| April 23    | "F" grading begins for trailer courses only                             |
| April 27    | Fall 2009 registration begins for new and non-matriculated students     |
| April 28    | "F" grading period for 2nd half term PED courses                        |
| May 15      | Last day of classes, Spring 2009  |
| May 18-19   | Final Exams   |
| May 19      | Grades due for courses without final exams                              |
| May 20      | Summer tuition due  |
| May 21      | Noon - Grades due for courses with exams                                |
| May 21      | Graduation  |
| May 22      | Last day 100% refund, Full term and Summer Term 1 classes               |
| May 22      | De-registration for non-payment of summer tuition                       |
| May 22      | Last day for 100% refund for Summer full-term and Summer Term 1 courses |

### **SUMMER 2009**

|         |  |
|---------|--|
| May 25  | Memorial Day - BCC closed  |
| May 26  | Summer Term 1 and full summer session classes begin                    |
| May 26  | Summer Quick Train course 1 begins                                     |
| May 29  | Make-up day for Memorial Day holiday                                   |
| May 29  | College-on-the-Weekend begins  |
| June 1  | Last day for 25% refund for Summer full-term and Summer Term 1 courses |
| June 15 | Summer Quick Train course 2 begins                                     |
| June 19 | Last day for 100% refund, Summer Term 2                                |
| June 19 | De-registration for non-payment of tuition, Summer Term 2              |
| June 19 | Last day to drop with "W" grade, Summer Term 1                         |
| June 22 | Summer Term 2 begins   |
| June 22 | "F" grading period begins Summer Term 1                                |
| June 26 | Last day for 25% refund, Summer Term 2                                 |
| June 29 | "W" grading period begins, Summer Term 2                               |
| July 2  | Last day for 100% refund, Summer Term 3                                |
| July 2  | De-registration for non-payment of tuition, Summer Term 3              |
| July 2  | Summer Term 1 ends   |
| July 3  | BCC closed for Independence Day holiday                                |
| July 6  | Summer Term 3 begins   |
| July 9  | Grades due, Summer Term 1  |
| July 10 | Last day for 25% refund, Summer Term 3                                 |
| July 13 | "W" grading period begins, Summer Term 3                               |
| July 21 | Last day for "W" grade, Full Term summer courses                       |
| July 22 | "F" grading period begins, Full Term summer courses                    |



|           |  |
|-----------|--|
| July 28   | Last day to drop with a "W" grade, Summer Term 2 |
| July 29   | "F" grading period begins, Summer Term 2         |
| July 30   | Last day "W" grade, Summer Term 3                |
| July 31   | "F" grading period begins, Summer Term 3         |
| August 9  | College-on-the-Weekend ends                      |
| August 12 | Tuition due for Fall 2009 semester               |
| August 13 | Summer Terms 2, 3 & Full summer term classes end |
| August 21 | Last day for 100% refund for Fall 2009 classes   |

## **FALL 2009**

|                |   |
|----------------|---|
| August 24      | Fall 2009 semester begins   |
| August 28      | Last day for 75% refund Fall 2009 tuition                             |
| September 4    | Last day for 50% refund Fall 2009 tuition                             |
| September 7    | Labor Day - BCC closed  |
| September 11   | 5:00pm Last day for 100% refund College-on-the-Weekend program        |
| September 11   | College-on-the-Weekend program begins                                 |
| September 14   | Last day for 25% refund Fall 2009 tuition                             |
| September 15   | "W" grading period begins for Fall 2009 full-term courses             |
| September 18   | Last day 75% refund College-on-the-Weekend program                    |
| October 12     | Columbus Day - BCC closed   |
| October 12-13  | Mid-Semester break - no day or evening classes                        |
| October 13     | Faculty/Staff Convocation Day   |
| October 15     | Graduation applications due for December 2009 candidates              |
| October 26     | Spring 2010 registration begins for continuing students               |
| November 4     | Last day to drop with "W" grade                                       |
| November 5     | "F" grading period begins for Fall 2009 full-term classes             |
| November 16    | Spring 2009 registration begins for new and non-matriculated students |
| November 25-27 | Thanksgiving Break - BCC closed                                       |
| December 14    | Last day of classes Fall 2009 semester                                |
| December 15    | Reading Day   |
| December 16-17 | Final Exams   |
| December 18    | Noon - Grades due for courses without final exams                     |
| December 21    | Noon - Grades due for courses with final exams                        |

## **SPRING 2010**

|           |                                      |
|-----------|--------------------------------------|
| January 6 | Tuition due for Spring 2010 semester |
|-----------|--------------------------------------|

|                |   |
|----------------|---|
| January 8      | Drop for non-payment of Spring 2010 tuition                         |
| January 15     | Last day for 100% refund, Spring 2010 semester                      |
| January 18     | Martin Luther King, Jr. Day - BCC closed                            |
| January 19     | Classes begin, Spring 2010 semester                                 |
| January 25     | Last day for 75% tuition refund                                     |
| January 26     | "W" grading period begins for 1/2 half semester PED courses         |
| February 1     | Last day for 50% tuition refund                                     |
| February 4     | Last day for 100% refund College-on-the-Weekend program             |
| February 7     | College-on-the-Weekend begins                                       |
| February 8     | Last day for 25% tuition refund                                     |
| February 9     | "W" grading begins for full term courses                            |
| February 15-17 | Mid-Semester break  |
| February 26    | "F" grading begins for 1/2 term PED courses                         |
| February 26    | First 5 weeks attendance due for full term courses                  |
| March 1        | Trailer courses begin   |
| March 15       | Graduation applications due for May & August 2010 candidates        |
| March 16       | Convocation Day - No day or evening classes                         |
| March 17       | 2nd half semester PED courses begin                                 |
| March 17       | Mid-term grades due   |
| March 24       | "W" grading period begins for 2nd half PED courses                  |
| March 29       | Fall 2010 registration begins for continuing students only          |
| April 2        | Last day for "W" grade - full term courses                          |
| April 5        | "F" grading period begins for full term courses                     |
| April 5-9      | Spring break  |
| April 13       | Second 5 week attendance due for full term courses                  |
| April 26       | Fall 2010 registration begins for new and non-matriculated students |
| April 28       | "F" grading begins for 2nd half PED courses                         |
| May 2          | Last day of classes College-on-the-Weekend program only             |
| May 14         | Last day of classes, Spring 2010 semester                           |
| May 17-18      | Final Exams   |
| May 18         | Grades due for courses without final exams                          |
| May 20         | Noon - Grades due for courses with final exams                      |
| May 20         | Graduation  |
| May 21         | Last day for 100% refund, full term and summer term 1 courses       |
| May 21         | De-Registration for non-payment of summer tuition                   |

## SUMMER 2010

|           |  |
|-----------|--|
| May 24    | Summer Term 1 and Full term summer session classes begin           |
| May 24    | Summer Quick Train course BUS 118 12 begins                        |
| May 27    | Last day for 100% refund College-on-the-Weekend program only       |
| May 28    | Last day 25% refund for Summer term 1 and full term summer courses |
| May 28    | First day of classes for College-on-the-Weekend program            |
| May 31    | Memorial Day - BCC closed  |
| June 1    | "W" grading begins for Full Term Summer and Summer Term 1 courses  |
| June 4    | Make-up day for Memorial Day holiday                               |
| June 18   | Last day for 100% tuition refund, Summer term 2 classes            |
| June 18   | De-registration for non-payment of Summer term 2 classes           |
| June 18   | "W" grading period ends for Summer Term 1 courses                  |
| June 21   | "F" grading period begins for Summer Term 1 courses                |
| June 22   | Summer term 2 begins   |
| June 25   | Last day 25% refund, Summer term 2                                 |
| June 28   | "W" grading period begins for Summer Term 1                        |
| July 1    | Summer term 1 ends   |
| July 2    | Last day 100% refund, Summer term 3                                |
| July 5    | Independence Day Holiday - BCC closed                              |
| July 6    | Summer term 3 begins   |
| July 9    | Make-up day for Independence Day Holiday                           |
| July 12   | Last day for 25% refund, Summer term 3                             |
| July 13   | "W" grading period begins for Summer Term 3                        |
| July 16   | "W" grading period ends for Full Term summer courses               |
| July 19   | "F" grading period begins for Full Term summer course              |
| July 28   | "W" grading period ends for Summer Term 2 courses                  |
| July 29   | "F" grading period begins for Summer Term 2 courses                |
| August 2  | "W" grading period ends for Summer Term 3 courses                  |
| August 3  | "F" grading period begins for Summer Term 3 courses                |
| August 8  | Last day of classes College-on-the-Weekend program                 |
| August 12 | Classes end for Summer terms 2, 3 & full term courses              |







